SE gideon lens

Sea Limited (SE) — Production ER2 / Gideon Lens

Report ID: SE-ER2-20260825T060138+0800 **Report date:** 2026-08-25 **Price anchor:** USD 115.68 per XNYS:SE ADS at the official 2026-08-24 close **Operating anchor:** TTM ended 2026-06-30 **Exact horizon:** 2031-06-30, exactly 5.0 years **Reporting and quote currency:** USD **Mode:** Production ER2

What changed from the previous report and why

Previous report: LEGACY-SE-20260529; 2026-05-29; `C:\Users\Admin\OneDrive\GPT\ER 2.0\Sea Limited\raw\pulse-cio-20260825T060138+0800\prior_active_snapshot\SE_gideon_lens.md`; SHA-256 `c5db557bdd5a9df6ffd4fd31227277211322b40f4c29d10364bd771d6a41c951` **Current report:** SE-ER2-20260825T060138+0800; 2026-08-25; price anchor USD 115.68 as of 2026-08-24

Area	Previous report	Current report	What changed and why	Decision impact
Price anchor	USD 91.94 on 2026-05-29	USD 115.68 on 2026-08-24	Price/market: +25.82%; Q2 2026 evidence and a new official TTM were incorporated	Higher entry price absorbs much of the operating upgrade
ER2 verdict and gates	PASS; Management YELLOW; Moat YELLOW; P/E-15 YELLOW	PASS; Management FAIL; Moat YELLOW; P/E-15 PASS	New governance evidence fails minority-protection gate; Base EPS still clears 15x by only 3.19%	PASS remains binding; BUY is unavailable
FY+5 valuation bridge	2031-03-31 Base EPS USD 6.66; 15x value USD 99.86	2031-06-30 Base EPS USD 7.957769; VP-locked 18x value USD 143.239835	New Q2 results, reviewed segment paths, repaired shares, and independent exit evidence	Higher terminal EPS/value, but weak return from the higher start price
Insurer retained economics / book bridge	n/a	n/a	Sea is not a P&C insurer	No decision impact
Shareholder returns	15x diagnostic: -11.60% / 1.67% / 12.17% Bear/Base/Bull; no governed expected or net-SGD bridge	Gross USD -30.12% / 4.37% / 28.19%; expected 3.66%; net-SGD -31.29% / 3.13% / 27.29%; expected 2.62%	Price / exit valuation / distributions: independent 12x/18x/24x exits, zero distributions, and weighted-wealth CAGR added	Expected and Base returns are decisively below mandate hurdles
CIO actionability	Watchlist language; no governed net-SGD status	PASS; no sizing ceiling	Net-SGD assumptions are explicit; portfolio context remains unavailable	No actionable research upgrade
Audited scores	46/100; 42/80; 4/20	48/100; 45/80; 3/20	Evidence / scoring audit: quality improved modestly, return score fell	Still Reject under the diagnostic rubric
Methodology or corrections	Override run; provider taxonomy issues; 15x diagnostic dominated	Full QF/QFR, official diluted-share repair, statutory bridge, VP, CS/CSA and RT chain	Methodology / correction: official TTM shares and pretax classification gaps repaired; returns now mandatory and hash-bound	Greater confidence in a still-adverse conclusion

Bottom line: Sea's operating evidence improved through Q2 2026, but the security price rose faster than the conservatively underwritten expected wealth. The current report also upgrades the governance concern from YELLOW to FAIL after a deeper minority-shareholder review. The prior PASS therefore remains PASS for stronger reasons: weak expected returns and a binding Management FAIL, not merely incomplete methodology.

Executive decision

Verdict: PASS

Scorecard:

Gate	Result	Notes
Management	FAIL	Founder holds 57.6% voting control versus 16.0% statutory beneficial ownership; board independence, committee control, related-party philanthropy and minority protections fail the non-compensating gate
Moat	YELLOW	Shopee, Monee and Garena have real advantages, but blended profit durability and the 2046 test remain unproven
P/E <= 15 on confident EPS at TTM + 5 calendar years	PASS	Base EPS USD 7.957769 implies USD 119.37 at 15x, a narrow 3.19% cushion over USD 115.68
Compounder Score	Audited 48 / 100	Reject under the diagnostic rubric
Business Quality Score	Audited 45 / 80	Large runway, insufficient durable high-ROIIC proof
20% Return UW Score	Audited 3 / 20	Current price fails the stretch-return test

One-line reason to pass: Sea has valuable scaled platforms and a credible earnings runway, but Management FAIL, unresolved moat durability, a 4.37% Base gross return, and a 3.66% expected gross return do not earn a Production ER2 BUY.

Every forecast and return chain is complete. Synthesis cleared 11/11 tie-outs. Valuation preflight locked a single P/E method and independently evidenced 12x / 18x / 24x Bear/Base/Bull exits. Compounder scoring and independent audit reproduced the terminal wealth arithmetic. The red team challenged Shopee margin ambition, correlated downside, exit multiples and net-SGD assumptions; its final return-model status is **MATERIAL_RESOLVED**. The economic objections survive as forecast risk, not as an unresolved arithmetic or method defect.

Security return underwriting

Measure	Result	Notes
Primary valuation method	P/E	One audited method for all scenarios, probability weighting, reverse-return and net-SGD diagnostics
Gross local-currency Bear / Base / Bull IRR	-30.12% / 4.37% / 28.19%	Five-year annualized shareholder return in USD
Probability-weighted gross local-currency IRR	3.66%	CAGR of 35% / 50% / 15% probability-weighted terminal shareholder wealth
Return bridge	USD 115.68 -> USD 19.28 / USD 143.24 / USD 400.48	Terminal statutory diluted EPS x 12x / 18x / 24x plus zero distributions

Current disclosure shows USD 9.098856bn cash and short-term investments, USD 2.461531bn restricted cash, USD 0.996311bn convertible notes, USD 1.224316bn other borrowings, USD 1.905856bn lease liabilities and USD 0.138329bn NCI. Gross debt excluding leases is USD 2.220627bn. Net cash before restricted cash and leases is USD 6.878229bn; after leases but before restricted cash it is USD 4.972373bn. Restricted cash is not treated as excess liquidity.

Under P/E, interest income, interest expense, NCI attribution and capital-structure effects are already embedded in statutory diluted EPS and the selected equity multiple. Cash is therefore not added, and debt, leases or NCI are not subtracted again after EPS times P/E. The convertible is assumed cash-settled below its initial conversion price under the locked VP treatment; a conversion-trigger change requires a new preflight. This passes the double-count check.

Return input	Bear	Base	Bull
Probability	35%	50%	15%
Terminal statutory diluted EPS, USD/ADS	1.606296519	7.957768584	16.686690073
Terminal diluted shares, m	657.022203	641.427114	633.172653
Exit P/E	12.00x	18.00x	24.00x
Terminal equity value, USD bn	12.664470	91.877914	253.573340

Return input	Bear	Base	Bull
Terminal equity value/ADS, USD	19.275558	143.239835	400.480562
Cumulative distributions/ADS, USD	0.00	0.00	0.00
Terminal shareholder wealth/ADS, USD	19.275558	143.239835	400.480562
Gross local IRR	-30.120508%	4.366497%	28.193095%

Probability-weighted terminal shareholder wealth is USD 138.438447 per ADS: `35% x 19.275558 + 50% x 143.239835 + 15% x 400.480562`. Annualizing that wealth from USD 115.68 over exactly 5.0 years produces a 3.657251% expected gross USD IRR. Scenario IRRs are never arithmetically averaged; doing so with the same weights would give a misleading negative 4.13% diagnostic.

Sea has not paid dividends, and no source-bound five-year distribution plan exists. The model therefore uses a clearly labelled finite zero-distribution diagnostic. It does not leave returns null and does not invent cash distributions.

Bear-case operating and return bridge

Bear case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Revenue	USD 27.723bn	USD 40.335bn	7.79%	Slower Shopee/Monee, Garena contraction and weak Other Services
Operating margin	8.24%	4.09%	-4.15 pp	Competitive spend, credit loss pressure and unallocated burden constrain earnings
Operating earnings	USD 2.284bn	USD 1.649bn	-6.31%	Reviewed segment profits less explicit unallocated expenses
Diluted share count	637.356m TTM	657.022203m	0.61%	SBC issuance exceeds reduced repurchases
EPS	USD 2.569760 reported; USD 2.589086 normalized	USD 1.606297	-9.11% normalized	Same ADS, USD and attributable statutory perimeter
Valuation	45.02x reported; 44.68x normalized	12.00x	-32.68x vs normalized	One-third haircut to the lowest positive peer anchor; not derived from the 15x screen
Share value	USD 115.68	USD 19.28	-30.12%	EPS x P/E; no cash/debt adjustment
Five-year distributions	-	USD 0.00	Cumulative	Explicit zero-distribution diagnostic
Total ending value	USD 115.68	USD 19.28	-30.12% gross USD IRR	Share value plus zero distributions

Base-case operating and return bridge

Base case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Revenue	USD 27.723bn	USD 58.096bn	15.95%	Shopee monetization, Monee scale and Garena stabilization
Operating margin	8.24%	12.58%	+4.34 pp	Shopee margin reaches 10.70%; Monee and Garena retain profitable scale
Operating earnings	USD 2.284bn	USD 7.311bn	26.19%	Four reviewed segment paths and unallocated bridge
Diluted share count	637.356m TTM	641.427114m	0.13%	Modeled buybacks nearly offset SBC issuance
EPS	USD 2.569760 reported; USD 2.589086 normalized	USD 7.957769	25.18% normalized	USD 5.104bn attributable income on the scenario share path
Valuation	45.02x reported; 44.68x normalized	18.00x	-26.68x vs normalized	Low end of mature-platform peer evidence
Share value	USD 115.68	USD 143.24	4.37%	EPS x P/E; no cash/debt adjustment
Five-year distributions	-	USD 0.00	Cumulative	Explicit zero-distribution diagnostic

Base case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Total ending value	USD 115.68	USD 143.24	4.37% gross USD IRR	Share value plus zero distributions

Bull-case operating and return bridge

Bull case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Revenue	USD 27.723bn	USD 77.273bn	22.75%	Strong commerce, finance and games execution across all segments
Operating margin	8.24%	19.33%	+11.09 pp	Shopee and Monee scale while Garena retains high margin
Operating earnings	USD 2.284bn	USD 14.940bn	45.63%	Favorable reviewed segment endpoints with explicit corporate costs
Diluted share count	637.356m TTM	633.172653m	-0.13%	Stronger repurchases exceed modeled issuance
EPS	USD 2.569760 reported; USD 2.589086 normalized	USD 16.686690	45.17% normalized	Same attributable statutory denominator
Valuation	45.02x reported; 44.68x normalized	24.00x	-20.68x vs normalized	Near GRAB's 24.14x evidence anchor; below current Sea and premium-platform references
Share value	USD 115.68	USD 400.48	28.19%	EPS x P/E; no cash/debt adjustment
Five-year distributions	-	USD 0.00	Cumulative	Explicit zero-distribution diagnostic
Total ending value	USD 115.68	USD 400.48	28.19% gross USD IRR	Share value plus zero distributions

CIO actionability

Measure	Result	Notes
Status	PASS	Research status only; neither expected nor Base net-SGD return clears the 10% mandate hurdle
Bear / Base / Bull net-SGD IRR	-31.29% / 3.13% / 27.29%	Five-year annualized after explicit FX and friction assumptions
Probability-weighted net-SGD IRR	2.62%	CAGR of probability-weighted net-SGD terminal wealth
10% mandate hurdle	FAIL	Base and expected net-SGD returns are below 10%
15% stretch hurdle	FAIL	Base net-SGD return is below 15%
Downside acceptable	NO	Bear net-SGD loss is severe
Portfolio fit	UNAVAILABLE	Holdings, concentration, liquidity needs, tax wrapper and portfolio risk budget were not supplied
Proposed sizing ceiling	none	Research has no sizing authority

Net-SGD uses the same P/E terminal values. Starting USD/SGD is 1.29 SGD per USD; terminal USD/SGD is 1.20 Bear, 1.23 Base and 1.26 Bull. Entry and exit friction are 0.35% each, annual ADS/custody drag is 0.10%, capital-gains withholding is zero for the diagnostic, and distribution withholding is 15% but has no modeled effect because distributions are zero. Starting SGD outlay is SGD 149.749495 per ADS. Probability-weighted terminal net-SGD wealth is SGD 170.422806, which annualizes to 2.620108% over five years.

Trade execution authorized: NO

What drives the decision

The operating case is substantial. Shopee is the scale engine, supported by localized marketplace liquidity, logistics density and advertising. Monee benefits from embedded distribution and transaction data, and Garena remains an unusually profitable digital-entertainment asset. The Base case can compound revenue at 15.95% and statutory EPS at roughly 25%

from the normalized current denominator while the exit P/E compresses sharply.

The investment case is much weaker. Shopee's 10.70% Base terminal operating margin is a major step from 2.66% TTM. Monee's rapidly growing loan book has not seasoned through a full adverse credit cycle, and product/vintage/funding disclosure remains incomplete. Garena's economics remain concentrated around Free Fire. Other Services remains a loss. The founder's voting control and board structure create a binding minority-shareholder failure even if operations perform.

The current USD 115.68 price capitalizes much of the modeled improvement. A 20% five-year return at the locked 18x Base exit requires terminal EPS of USD 15.991603, more than double Base EPS of USD 7.957769. The Base maximum starting price for a 20% gross return is USD 57.564877. This is a research threshold, not a trade instruction.

The red team identifies both tails. Base may be optimistic because every major segment must execute simultaneously and a 200-basis-point Shopee margin miss reduces Base IRR to about 1.74%. Bear may be overly punitive because it combines correlated operating failure with a 12x multiple even though Sea remains profitable, growing and net-cash. Those observations widen the uncertainty range but do not repair the low expected return.

Kill and trigger criteria

- **Price trigger for re-underwriting:** USD 57.56 or lower, provided operating and qualitative evidence has not deteriorated; this is not a buy instruction.
- **Forced thesis-break signal:** Shopee `Operating segment income (loss)` margin below 2.0% for two consecutive reported quarters while GMV still grows at least 15% year over year.
- **Monee failure signal:** rising 90-day NPLs, provisions or funding costs without a commensurate risk-adjusted revenue and collections bridge as the loan book seasons.
- **Garena failure signal:** sustained bookings decline or no evidence of a second durable profit pool beyond Free Fire.
- **Governance upgrade condition:** materially stronger independent oversight and minority-shareholder protections sufficient to move Management from FAIL.
- **Investment upgrade conditions:** Management must clear, Moat/2046 durability must improve, the P/E-15 cushion must widen, and both Base and probability-weighted net-SGD returns must clear the applicable hurdles.

Governance and scope

This report underwrites one security and answers the queued research question. It does not rank securities, size a portfolio, issue a broker instruction, mutate a portfolio, publish a BUY queue, send a message or authorize a trade. Portfolio fit remains unavailable because current holdings and risk-budget context were not supplied. Every mandatory gross USD and net-SGD return is finite and visibly published; every governed artifact is hash-bound in the run, gate and active-report manifests.

Appendix A - Company Primer

Appendix A — Company Primer: Sea Limited

Stage 0 time anchor and source boundary

- Today and information cutoff: August 25, 2026, 06:01:38 Singapore time.
- Fiscal year end: December 31.
- Latest reported quarter: Q2 2026, ended June 30, 2026 and announced August 11, 2026.
- TTM construction: Q3 2025 + Q4 2025 + Q1 2026 + Q2 2026, ending June 30, 2026.
- Five-year horizon: June 30, 2031, exactly five calendar years from the TTM anchor.
- QFR-cleared quote seal: `c74da8bc0985413d450e6454e9e3f7ca08e79017629340dab48baff3e141b2dd`.
- QFR-cleared statutory seal: `0ab960edaa262fb4fc1f2090d6e90a17ea720d6dfd6d92be220fab8d211bc271`.

This primer is a reader-facing orientation, not the financial source of record. Every consolidated, segment, cash-flow, balance-sheet and per-share figure comes from the QFR-cleared `quant_foundation.md`. Qualitative facts and current operating KPIs not contained there come from Sea's FY2025 Form 20-F, the Q2 2026 Form 6-K exhibit, Sea Investor Relations, and the live FMP Q2 2026 transcript pull archived for this run. Official foreign-issuer sources control any conflict. The May 2026 primer's useful framing is retained, but its Q1 anchor and stale figures are replaced.

1. Business overview

Sea Limited is a Singapore-founded consumer-technology group with three core businesses: Shopee in e-commerce, Monee in digital financial services, and Garena in digital entertainment. A fourth reporting line, Other Services, contains activities below the reportable-segment thresholds. The company is headquartered in Singapore, incorporated in the Cayman Islands, reports in U.S. dollars, and files as a foreign private issuer on Form 20-F and Form 6-K. Each NYSE-listed ADS represents one Class A ordinary share.

The cleanest mental model is that **Shopee is the scale and traffic layer, Monee is the financial-services and monetization layer, and Garena is the high-margin digital-content engine**. Shopee connects buyers with merchants and brands, supports checkout, logistics, fulfillment, advertising, and discovery, and also sells a limited amount of merchandise directly. Monee embeds payments and credit into Shopee while expanding into off-Shopee payments, consumer and SME lending, digital banking, insurance, and wealth products. Garena develops its own games and publishes licensed games, localizing content, payments, live operations, and esports for diverse markets.

The customers differ by business. Shopee serves households and individual buyers on one side and small merchants, brands, large retailers, creators, and advertisers on the other. Buying is self-service through mobile apps and web interfaces; sellers open storefronts and purchase ads or other services inside the platform. Monee serves consumers and SMEs directly through digital applications and indirectly at checkout, with lending, payments, banking, insurance, and investment products acquired in-app. Garena serves game players through free downloads and optional in-game purchases; it also serves third-party game developers that need publishing, distribution, localization, monetization, and community building.

Sea has changed materially from the company many investors first encountered. It once paired an aggressively funded e-commerce expansion with a young financial-services arm and a games profit pool vulnerable to title cycles. The current company is profitable at every core segment's operating-income line. In the TTM ended June 30, 2026, Sea produced US$27.723 billion of revenue, US$2.284 billion of statutory operating income, US$1.638 billion of net income attributable to Sea Limited, and US$5.216 billion of operating cash flow. Shopee is now profitable, Monee is a billion-dollar-plus TTM operating-profit contributor, and Garena retains exceptional margins.

That transition does not settle the investment question. Sea remains an unusually heterogeneous enterprise: a thin-margin marketplace, a regulated balance-sheet lender, and a hit-driven games publisher sit inside one consolidated equity. Each can reinforce the others, but each also has a different failure mode. The institutional question is whether Sea has become a durable compounding platform or is enjoying a powerful but cyclical recovery in all three engines at once.

2. Revenue architecture and geography

The QFR-cleared foundation uses Sea's exact reportable-segment table. The four operating lines sum to consolidated revenue with no residual. FY2025 is the latest completed fiscal year and is therefore the appropriate FY-1 revenue architecture; the TTM column shows how quickly the mix has already moved through Q2 2026.

Segment	FY2025 revenue (US$mm)	FY2025 share	TTM revenue (US$mm)	TTM share	TTM operating margin
Shopee	16,564.6	72.2%	19,970.6	72.0%	2.66%
Monee	3,791.6	16.5%	4,766.3	17.2%	21.94%
Garena	2,408.8	10.5%	2,797.2	10.1%	52.07%
Other Services	173.5	0.8%	189.0	0.7%	-78.08%
Consolidated	22,938.5	100.0%	27,723.2	100.0%	8.24%

Shopee is the revenue body but not yet the profit center. Its FY2025 revenue included marketplace services and direct sales of goods. Sea monetizes the marketplace mainly through seller advertising, transaction-based fees, and value-added services such as logistics; direct merchandise sales broaden assortment but have retailer-like economics. In Q2 2026, Shopee reported US$4.9 billion of marketplace revenue, including US$4.3 billion of core marketplace revenue and US$676.4 million of value-added-services revenue. Core marketplace revenue rose 65.6% year over year, while value-added-services revenue fell 9.0% because more shipping subsidies were netted against revenue. This accounting presentation makes it essential to pair revenue growth with GMV, orders, take-rate composition, fulfillment economics, and segment profit.

Monee is the second-largest segment by revenue and the most important change in mix. The company renamed SeaMoney to Monee in May 2025; the economic reporting line is continuous. Monee includes consumer and SME credit, e-wallet and payment processing, banking, insurtech, and wealth services, but Sea says revenue and operating income are primarily attributable to consumer and SME credit. It is therefore closer to a technology-enabled lender and financial conglomerate than to a pure payments processor. Monee's US$4.766 billion of TTM revenue and US$1.046 billion of operating segment income must be interpreted alongside the loan book, funding, provisions, NPLs, and regulatory capital.

Garena earns revenue from in-game items, season passes, and services around developed or licensed online games. Bookings are the better current-demand indicator because GAAP revenue recognizes spending through deferred-revenue mechanics. Garena's TTM revenue was US$2.797 billion and operating segment income was US$1.456 billion, a 52.07% margin. Its revenue weight is only about one-tenth of Sea, but its profit contribution remains disproportionate.

Other Services contributed less than 1% of revenue and lost US$147.6 million at the segment operating-income line in the TTM. It represents option value and corporate experimentation, not a proven profit pool. Investors should require either scale economics or disciplined closure rather than treating every small initiative as costless upside.

Sea's FY2025 geographic disclosure shows why local execution and currency matter. Southeast Asia excluding Singapore generated US$14.379 billion, 62.7% of group revenue; Latin America generated US$5.533 billion, 24.1%; the rest of Asia generated US$2.006 billion, 8.7%; Singapore generated US$793 million, 3.5%; and the rest of the world generated US$228 million, 1.0%. These are group-level customer-location figures, not segment revenue allocations.

FY2025 customer geography	Revenue (US$mm)	Share of group
Southeast Asia excluding Singapore	14,379.0	62.7%
Latin America	5,532.7	24.1%
Rest of Asia	2,005.7	8.7%
Singapore	792.7	3.5%
Rest of world	228.3	1.0%
Total	22,938.5	100.0%

Shopee is the largest pan-regional e-commerce platform in Southeast Asia and Taiwan and a leading platform in Brazil, according to Sea's current IR description. Monee is concentrated in Southeast Asia with a growing Latin American presence, especially Brazil. Garena is global: Free Fire was available in more than 160 markets at the FY2025 filing date. The resulting geographic diversification is real, but it also creates exposure to local currencies, consumer cycles, tax, data and content rules, payments licensing, and uneven logistics infrastructure.

3. What each segment does and how its economics work

Shopee

Shopee is a mobile-centric marketplace with integrated payment, logistics, fulfillment, advertising, video, livestreaming, creator tools, and buyer protection. Buyers seek broad selection, low prices, trusted settlement, quick delivery, and entertaining discovery. Sellers seek traffic, conversion, logistics access, payments, advertising, and operating tools without building a full direct-to-consumer stack. Shopee Guarantee holds buyer payments until delivery conditions are met, reducing settlement risk. Fulfilled by Shopee allows third-party sellers to store products in Sea-operated facilities while Sea handles packing and delivery.

A dollar of Shopee revenue begins with GMV but depends on monetization. Transaction fees and advertising are structurally attractive because they scale on marketplace activity; advertising can be particularly high incremental margin once recommendation and auction systems are built. Logistics services increase control over service quality and repeat usage but carry transport, sorting, warehousing, labor, and subsidy costs. Direct sales of goods require inventory and working capital and generally carry lower gross margins than marketplace services.

The current KPI set shows both scale and reinvestment. Q2 2026 GMV was US$38.3 billion, up 28.4% year over year, and gross orders were 4.2 billion, up 27.5%. Adjusted EBITDA was US$255.4 million, up 12.2%, much slower than GMV and revenue. Management's live-call detail explains the gap: average monthly active buyers rose 18%, purchase frequency rose 8%, ad revenue grew more than 70%, and ad take rate improved by over 90 basis points, but Sea also leaned into user acquisition, logistics, fulfillment, content, and ShopeeVIP.

Several operational data points matter for durability. ShopeeVIP membership exceeded 15 million at June 30, up 25% sequentially; in Asia, members generated 24% of GMV and monthly retention was around 80%. Orders from livestreaming and short-form video grew more than 50% and represented more than 25% of physical-goods orders in Southeast Asia. In Brazil, management said Shopee again outgrew the market, improved average buyer waiting time by 15%, doubled fulfillment-order penetration, and added nearly 500 official brands. These are not audited segment revenue splits, but they indicate where investment is going: user loyalty, discovery, logistics control, and a more credible branded-goods assortment.

The margin structure remains the core debate. Shopee's TTM operating margin was only 2.66%, down from 3.51% in FY2025 because investment rose faster than near-term segment profit. A small change in shipping subsidies, seller incentives, content spending, or logistics cost can move group earnings. Management now expects more than US$1 billion of Shopee adjusted EBITDA in 2026 and continues to describe a 2%-3% adjusted-EBITDA-to-GMV ambition as achievable over time. That ambition is economically meaningful, but adjusted EBITDA-to-GMV is not an operating margin and should not be substituted for statutory profit.

Monee

Monee provides embedded and standalone digital finance. Products include SPayLater buy-now-pay-later credit, personal cash loans, SME loans, e-wallets, payment processing, deposit accounts, cards, remittances, banking, insurance, and investment-product distribution. Shopee buyers and sellers are key users, but the strategy is expanding beyond Shopee into national QR networks, external merchants, and standalone apps. Banks are licensed in Singapore, Indonesia, and the Philippines; Brazil's SCFI license supports credit, financing, and investment activities.

The economic engine is interest and fee income from credit and banking, plus fees from payments and wealth services and fees or premiums from insurance. Digital distribution can lower customer-acquisition and servicing cost. Shopee transaction history can provide behavior and cash-flow data that improve underwriting, while embedded checkout creates convenient origination. The attraction is a potentially lower-cost, better-informed lender serving underbanked users. The danger is familiar: rapid origination growth can make current revenue and margin look better before losses season.

At June 30, 2026, consumer and SME loans principal outstanding was US$11.1 billion, up 62.5% year over year. US$10.0 billion was on-book and US$1.1 billion was off-book through arrangements in which other financial institutions lend on Monee's platform. The 90-plus-day NPL ratio was 1.0%, stable sequentially. Q2 revenue was US$1.4 billion, up 58.9%, and adjusted EBITDA was US$288.0 million, up 12.8%. TTM operating margin was 21.94%, below FY2025's 25.65%, a reminder that mix, acquisition expense, and provisions matter even when the book is growing rapidly.

The Q2 transcript adds operating context. Monee added around 5.3 million unique first-time borrowers; active credit users rose about 34% to more than 40 million; average loans outstanding per user increased around 20%. Off-Shopee SPayLater exceeded 20% of the portfolio. Management described new transformer-based risk models trained on ecosystem behavior, estimating that newer models lifted approval rates around 10% at a similar risk level. These claims are promising but must be tested through a full credit cycle and against provision growth: Q2 provision for credit losses rose 71.5% to US$555.2 million,

faster than loan principal, because off-Shopee and Brazil exposures carry higher provisions.

Monee is economically capital-intensive even if its app is asset-light. On-book loans require funding, liquidity, expected-loss reserves, collections, fraud controls, and regulatory capital. Off-book loans reduce the direct balance-sheet burden but retain platform, partner, conduct, and reputational risk. The metric that matters is not revenue growth alone but risk-adjusted return on the full economic capital tied up in loans, restricted cash, licenses, and loss absorption.

Garena

Garena develops and publishes mobile and PC online games. It launched the self-developed Free Fire in 2017 and also operates licensed games, localizing language, design, payments, marketing, content, and community programs. Garena's publishing services include launch, hosting, distribution, monetization, and esports. Its freemium model lets users play for free and monetizes optional in-game items and season passes.

Successful digital games have extraordinary incremental economics: once development, live operations, marketing, platform fees, royalties, and servers are funded, additional virtual-item spending carries high margins. Q2 2026 bookings were US$763.5 million, up 15.5%; GAAP revenue was US$746.6 million, up 33.5%; and adjusted EBITDA was US$429.8 million, 56.3% of bookings. Quarterly active users were 666.3 million, quarterly paying users were 68.1 million, paying-user ratio was 10.2%, and average bookings per user was US$1.15. Free Fire still drew more than 100 million average daily active users.

The strength is live-operations expertise and localization. Garena uses events, map changes, esports, creators, and region-specific cultural content to extend franchise life. The Q2 campaign around football and Thailand's Songkran festival illustrates this capability. The weakness is title concentration. Free Fire remains central, while new titles are uncertain and licensed games involve royalties and dependence on partners. Palworld Online and Monster Hunter Outlanders broaden the pipeline, but neither should be capitalized as a proven earnings stream before launch and retention data exist.

Garena's accounting deserves care. Bookings approximate current user spending, while GAAP revenue reflects deferred-revenue recognition. Sea said that beginning in Q3 2026 it will exclude the net effect of changes in deferred revenue and related cost from Garena adjusted EBITDA, while still disclosing it separately. Comparability across the definition change must be rebuilt rather than assumed.

Other Services and unallocated costs

Other Services is too small and loss-making to support the valuation, but it shows the cost of optionality. Its TTM operating loss was US$147.6 million on US$189.0 million of revenue. Unallocated expenses were another US$600.2 million, taking the four-segment operating-income sum of US$2.885 billion down to statutory operating income of US$2.284 billion. A sum-of-the-parts analysis that values core segments without these recurring corporate costs would overstate equity value.

4. Ecosystem flywheel and competitive landscape

The flywheel begins with Shopee's buyer and seller density. More buyers attract more sellers and assortment; more sellers improve choice and price competition; more transactions create advertising inventory and logistics density. Better logistics can lower cost per parcel and delivery time, raising conversion and repeat frequency. Content, livestreaming, affiliates, and VIP membership strengthen discovery and retention.

Monee can deepen this flywheel by reducing payment friction and extending credit to buyers and working capital to sellers. Transaction and behavioral data can improve underwriting, while credit can increase purchasing power and merchant liquidity. As Monee expands outside Shopee, it may add stand-alone distribution and data, but the informational advantage may weaken. Garena contributes cash generation, local digital operating skill, and consumer engagement expertise, although direct cross-selling from games into commerce is less clearly disclosed than the Shopee-Monee relationship.

Competition is intense and fragmented. Shopee faces regional and single-country marketplaces, social-commerce and short-video platforms, search and AI discovery tools, direct brand channels, offline retailers, and logistics-enabled consumer apps. The practical competitive map includes TikTok Shop and Lazada in Southeast Asia and Mercado Libre in Brazil, alongside local platforms and offline commerce. Competition occurs on delivered price, assortment, discovery, shipping speed, reliability, seller tools, ad returns, and subsidy levels. Social platforms are especially dangerous because they already own attention and creators.

Monee competes with incumbent banks, digital banks, e-wallets, card networks, payment processors, merchant acquirers, consumer-finance firms, BNPL providers, and super-app wallets. In Brazil, large digital banks and marketplace-linked wallets set a high standard for user experience and low-cost distribution. Monee's edge must come from ecosystem data, convenient

origination, localized risk models, and low servicing cost, not merely higher approval rates or promotional pricing.

Garena competes with global publishers and studios, app stores, PC and console ecosystems, and every other claim on leisure time. Content cadence and community relevance matter more than nominal market size. Free Fire's global scale and nine-year longevity are evidence of an operating moat, but no game franchise is immune to aging, bans, platform policy, or shifts in player attention.

5. Regulation, cyclicality, and capital needs

Sea operates in categories where regulation is part of the product. Shopee must comply with product safety, intellectual property, tax, platform liability, data privacy, consumer protection, seller verification, and competition rules. Counterfeit or illegal listings can damage trust and invite sanctions. Logistics and payments also bring local licensing and conduct obligations.

Monee is the most regulated business. Sea's FY2025 20-F says the group or partners held payments approvals in Indonesia, Vietnam, Thailand, the Philippines, Malaysia, Singapore, and Brazil; credit approvals in Indonesia, Thailand, the Philippines, Malaysia, Singapore, Brazil, and Mexico; bank licenses in Singapore, Indonesia, and the Philippines; and insurance permissions across several markets. Licensing is an entry barrier, but it also creates capital, liquidity, AML/KYC, fair-lending, pricing, data-use, and supervisory obligations. Rapid growth can attract tighter caps or consumer-protection scrutiny.

Garena faces content classification, youth protection, data, cybersecurity, app-store, IP, and national-security rules. Free Fire has remained unavailable in India's major app stores since government action in early 2022, demonstrating that regulatory access risk can be abrupt rather than gradual.

The three segments have different cycles. Shopee is exposed to consumer spending, seller health, freight and fuel costs, currencies, and competitive subsidy cycles. Monee has a lagged credit cycle: revenue and originations can accelerate before delinquencies, provisions, and charge-offs peak. Garena has a content cycle driven by game launches, events, payer conversion, and deferred-revenue recognition. Diversification reduces dependence on one cycle, but correlated stress is possible: weaker consumers can hurt Shopee GMV and Monee credit simultaneously while currency moves reduce reported U.S.-dollar earnings.

Sea's capital intensity is therefore larger than conventional software metrics imply. Shopee requires technology, local operations, fulfillment, sorting, last-mile capability, seller tools, marketing, and working capital. Monee requires lending capital and restricted liquidity. Garena requires development teams, licenses, user acquisition, servers, and continuous content. TTM operating cash flow was US$5.216 billion. The QF's TTM free-cash-flow diagnostic is US$4.423 billion, but its US$792.8 million capex estimate partly relies on FMP because quarterly official releases do not disclose a complete TTM capex total; it should not be treated as an audited issuer figure.

At June 30, 2026, cash and equivalents were US$3.529 billion and short-term investments US$5.570 billion. Gross debt including leases was US$4.126 billion, implying US$4.972 billion of net cash before restricted cash. Current and non-current restricted cash totaled US$2.462 billion, and Monee's on-book lending needs mean not all liquidity is economically excess. Share-based compensation was US$560.6 million over the TTM. Repurchases can offset dilution, but an investor should model gross SBC, buybacks, convertible notes, leases, and financial-services capital separately rather than applying a simplistic net-cash adjustment.

6. Growth algorithm and KPI dashboard

Shopee's growth algorithm is: expand buyers and orders, improve purchase frequency, deepen advertising adoption, raise take rate without damaging seller returns or delivered-price leadership, and lower logistics and fulfillment cost per order. Monee's algorithm is: acquire more borrowers, expand credit penetration and off-Shopee use cases, use data and AI to improve approval and pricing, and keep loss ratios and funding costs controlled. Garena's algorithm is: sustain Free Fire, improve payer conversion and bookings per user, and build a credible portfolio beyond the core franchise.

Business	Q2 2026 operating KPI	Current reading	What would confirm quality
Shopee	GMV	US$38.3bn; +28.4% YoY	Growth with rising statutory profit and stable subsidy intensity
Shopee	Gross orders	4.2bn; +27.5% YoY	Frequency and fulfillment efficiency improve together
Shopee	Adjusted EBITDA	US$255.4mm; +12.2% YoY	EBITDA grows at least as fast as GMV after reinvestment matures

Business	Q2 2026 operating KPI	Current reading	What would confirm quality
Monee	Loan principal outstanding	US$11.1bn; +62.5% YoY	Provision and loss curves remain controlled as vintages season
Monee	90-plus-day NPL ratio	1.0%; stable QoQ	Stable across countries, products, and off-Shopee cohorts
Monee	Adjusted EBITDA	US$288.0mm; +12.8% YoY	Risk-adjusted profit tracks balance-sheet growth
Garena	Bookings	US$763.5mm; +15.5% YoY	Multi-quarter growth without one-off campaign dependence
Garena	QAUs / QPUs	666.3mm / 68.1mm	Paying ratio and engagement remain durable
Garena	Adjusted EBITDA / bookings	56.3%	High margin persists after the Q3 definition change

The clearest current tension is that top-line and balance-sheet growth materially outpaced profit growth at Shopee and Monee in Q2. That may be rational reinvestment, but it shifts the burden of proof to future unit economics. For Shopee, the evidence should appear in statutory segment profit, fulfillment economics, and ad monetization rather than GMV alone. For Monee, it should appear in risk-adjusted EBITDA, provisions relative to loan growth, vintage losses, and capital consumption. Garena already clears the current-margin test; its challenge is duration and portfolio breadth.

7. Key risks and valuation relevance

The first risk is e-commerce subsidy relapse. Shopee's TTM operating margin is only 2.66%. A modest rise in shipping support, vouchers, seller incentives, content acquisition, or Brazil investment can materially change consolidated earnings. Marketplace revenue growth is valuable only if take rate and advertising gains exceed the cost needed to defend users and merchants.

The second risk is credit seasoning. Monee's 1.0% 90-plus-day NPL ratio looks strong, but loans grew 62.5% year over year and Q2 credit-loss provisions grew 71.5%. Fast growth can dilute reported delinquency ratios with new vintages before losses mature. Expansion into Brazil, off-Shopee use cases, and higher-ticket prime borrowers changes both yield and risk. The underwriting question is not whether current NPLs are low; it is whether cohort economics remain attractive after loss, funding, operating, and capital costs.

The third risk is games concentration. Free Fire remains Garena's anchor. Its longevity is impressive and user scale remains vast, but a ban, app-store restriction, content fatigue, failed update, or change in player taste could reduce a profit pool that still supplies most core-segment earnings. New licensed and self-developed titles should be treated as options until launch, retention, and payer data prove otherwise.

The fourth risk is regulatory and geopolitical fragmentation. Sea must maintain licenses, comply with changing platform and consumer rules, protect data, police listings and content, and manage currencies across numerous jurisdictions. Rules may tighten precisely when growth makes the company more visible.

The fifth risk is valuation by the wrong denominator. Sea is not well described by consolidated revenue multiples. Shopee's low margin, Monee's credit-bearing balance sheet, Garena's deferred revenue, and Other Services plus corporate costs have different economics. A credible valuation needs segment-level earnings or cash generation, a complete corporate-cost bridge, and an explicit treatment of lending capital, restricted cash, leases, convertibles, SBC, and buybacks. The US$4.972 billion headline net-cash figure is not automatically excess cash available to equity holders.

The sixth risk is using adjusted EBITDA without definition discipline. Garena's adjusted-EBITDA definition changes in Q3 2026. Shopee adjusted EBITDA as a percentage of GMV is not the same as segment operating margin. Monee adjusted EBITDA does not by itself capture the full economic cost of financial capital. Statutory operating income and cash-flow bridges remain necessary.

For the ER2 five-year horizon, Shopee is the largest earnings swing, Monee is the fastest-growing but least cycle-tested profit pool, and Garena is the highest-margin but least predictable-duration asset. Other Services and unallocated expense are real deductions. Sea can become a high-quality compounder if Shopee sustains growth while lifting statutory margins, Monee seasons its credit book without loss or capital surprises, and Garena proves franchise durability and portfolio renewal. If any one pillar disappoints, the other two may cushion the result; if Shopee margins and Monee credit weaken together, Garena alone is unlikely to preserve the full valuation case.

8. Primer conclusion

Sea is no longer a simple recovery story. It has scaled revenue, positive consolidated earnings, substantial operating cash flow, and three credible consumer franchises. The ecosystem has genuine logic: Shopee supplies traffic and merchants; Monee reduces payment friction and extends finance; Garena contributes global digital-content capability and cash generation. Local operating knowledge across fragmented markets is difficult to replicate.

Yet the evidence still supports a skeptical orientation rather than a pre-judged verdict. Shopee is profitable but low-margin and actively reinvesting. Monee is profitable but growing the loan book faster than profit and provisions are rising. Garena is extraordinarily profitable but concentrated. The company deserves full segment underwriting because the opportunity is large and the business quality has improved; it does not deserve blended-multiple shortcuts or an assumption that every current growth rate persists to June 2031.

This appendix has no trade, portfolio, ranking, sizing, or verdict authority. Its purpose is to define the business and the evidence that downstream segment, moat, management, synthesis, valuation, and red-team work must test.

Source notes

- Quantitative source of record: `C:\Users\Admin\OneDrive\GPT\ER 2.0\Sea Limited\quant_foundation.md`, QFR-cleared through Q2 2026.
- [Sea Limited FY2025 Form 20-F](https://www.sec.gov/Archives/edgar/data/1703399/000114036126015366/ef20067274_20f.htm), filed April 17, 2026.
- [Sea Limited Q2 2026 results, Form 6-K Exhibit 99.1](https://www.sec.gov/Archives/edgar/data/1703399/000119312526344596/d120948dex991.htm), filed August 11, 2026.
- [Sea Limited Investor Relations](https://www.sea.com/investor/home), live-checked August 25, 2026.
- FMP stable `earning-call-transcript` endpoint for SE, Q2 2026, live-pulled August 25, 2026 and archived at `raw\pulse-cio-20260825T060138+0800\FMP_SE_transcript_Q2_2026.json`.

Appendix M - Management Assessment

Sea Limited — Management Assessment

Assessment date: August 25, 2026 SGT **Financial anchor:** FY2025; Q2 2026 ended June 30, 2026; TTM through June 30, 2026 **Management gate: FAIL**

This is a governance-and-minority-protection FAIL, not a judgment that Sea's operators are incompetent. Forrest Li and his long-tenured team built three scaled platforms and repaired the economics after the 2021-2022 spending peak. The decisive issue is that public investors must accept 15-vote Class B control, no majority-independent board, founder-chaired compensation and nominating committees, an equity plan that need not receive shareholder approval, sparse named-executive pay disclosure, and Cayman/ADS enforcement limits. The latest filing also records US$86 million of 2025 settlements of securities class actions alleging offering misstatements/omissions and Exchange Act violations; neither settlement is an admission or SEC enforcement, but both weaken the case for unqualified candor. Q2 operating execution and heavier buybacks improve stewardship evidence but do not remediate this structure.

1. Who is running the company

Forrest Xiaodong Li founded Sea in May 2009 and has been chairman and CEO since inception. He therefore owns every major strategic choice: creation and international scaling of Shopee, credit-led expansion of Monee, Garena's Free Fire concentration and renewal effort, the 2022-2023 profitability reset, and the 2025-2026 return of capital. Co-founder Gang Ye has been a director since 2010 and COO since 2017 after serving as CTO. Chris Zhimin Feng joined in 2014, led Shopee from 2015 and Monee from 2020, and has been Sea's president since January 2022. Tony Tianyu Hou joined in 2010 and has been CFO since January 2013 after serving as financial controller; his prior Ernst & Young audit experience is relevant to the complex credit, VIE and cross-currency perimeter.

The operating bench is unusually stable. Terry Feng Zhao has been with Sea since inception and has been president of Garena since November 2018. David Jingye Chen, a co-founder and former group COO, is Shopee's chief product officer. Yanjun Wang has been general counsel since 2014 and is chief corporate officer and company secretary. The FY2025 Form 20-F does not identify a standalone current Monee CEO; responsibility appears shared through Li, president Feng and the group team. That centralization aids ecosystem coordination but makes succession and key-person risk material.

Sea has seven directors: Li, Ye, David Y. Ma, David Heng Chen Seng, Khoon Hua Kuok, Silvio Savarese and Jessica Sin Yin Tan. Only Heng, Kuok and Tan are identified as independent: three of seven, with no lead independent director disclosed. The two-person audit committee is independent and chaired by Heng, but Li chairs both the compensation committee and the corporate governance/nominating committee, each alongside only Kuok. The board therefore cannot be treated as an independent counterweight to the controller. Li also serves as president of the Football Association of Singapore, an NUS trustee, a Shangri-La Asia independent director and a Stanford GSB advisory-council vice chair; the outside roles are not individually disqualifying, but they add to an already concentrated governance load. [Sea leadership and governance](https://www.sea.com/investor/corporategovernance); [FY2025 Form 20-F](https://www.sec.gov/Archives/edgar/data/1703399/000114036126015366/ef20067274_20f.htm).

2. Tenure and track record

Li has more than 17 years in-seat and cannot claim inherited problems. Three decisions dominate the record:

Decision owned by Li and team	Quantified outcome	Assessment
Scale Shopee, then reset it toward profitable growth	Revenue rose from US$5.123bn in FY2021 to US$16.565bn in FY2025; Operating segment income (loss) improved from -US$2.767bn to +US$0.581bn; Q2 2026 margin reached 2.87%	Exceptional platform building and an effective correction, but the initial overspend was large and current margins remain competitively exposed
Make Monee a credit-led profit engine	Revenue rose from US$0.470bn in FY2021 to US$3.792bn in FY2025; segment loss of US$0.640bn became profit of US$0.973bn; loans reached US$11.1bn with 1.0% 90-day NPL at Q2 2026	Strong economics so far, but loan growth of 62.5% YoY and Q2 segment margin compression to 19.89% leave through-cycle proof incomplete
Rebuild Garena after the post-pandemic contraction	Revenue fell from US$4.320bn in FY2021 to US$1.911bn in FY2024, then recovered to US$2.409bn in FY2025; segment profit recovered from US$0.979bn to US$1.184bn; Q2 bookings grew 15.5%	Free Fire and Arena of Valor execution improved, but portfolio renewal beyond the core franchises remains unproven

The profitability reset is real. Consolidated operating margin moved from -15.9% in FY2021 and -11.9% in FY2022 to 8.7% in FY2025; FY2025 FCF was US$4.511 billion. Yet FMP's native FY2025 ROIC was only 8.1%, while the packet's statutory-NOPAT diagnostic was 12.4%; denominator and credit-capital complexity prevent calling the team a proven 20% allocator.

Management has shown learning, but not always explicit ownership of error. The Q3 2025 call directly acknowledged winding down cross-border operations in Chile and Colombia and described Argentina as a minimal-investment test. That is better than persisting with weak geography, but Li's frequent formulation that Sea made the “right decisions” underplays the cost of the prior growth-at-any-price phase. The right conclusion is adaptive, not flawless.

3. Capital allocation behavior

The DR-cleared data package controls the five-year history.

US$bn	FY2021	FY2022	FY2023	FY2024	FY2025	Five-year total
Cash capex	0.807	0.976	0.258	0.322	0.514	2.877
R&D	0.832	1.377	1.164	1.206	1.157	5.736
Buybacks	0.000	0.000	0.000	0.000	0.014	0.014
Dividends	0.000	0.000	0.000	0.000	0.000	0.000
M&A	0.035	0.061	0.044	0.004	0.015	0.159

This is mainly an organic-investment record, not serial M&A. Capex fell sharply after FY2022 while R&D stayed above US$1.1 billion annually from FY2022 through FY2025; that pattern fits a software, marketplace, credit and games strategy. The low US$159 million five-year M&A total limits integration and goodwill risk. The downside is that investors have received no dividend and historically funded expansion through dilution and convertibles.

Capital return is now meaningful. Sea authorized a US$1.0 billion ADS repurchase on November 17, 2025 and executed about US$599.7 million through Q2 2026: US$14.5 million in Q4, US$168.4 million in Q1 and US$416.8 million in Q2. The acceleration is consistent with price sensitivity rather than a mechanical quarterly program, although management has not published its intrinsic-value framework. Repurchased shares total about 6.6 million, roughly 1.0% of the H1 diluted-share basis. That is better than the May assessment, but TTM SBC of US$560.6 million means much of the cash return still offsets compensation dilution rather than shrinking the economic claim decisively.

The next allocation test is Monee. Q2 management disclosed that the mix is shifting toward off-Shopee SPayLater, Brazil, newer countries and prime customers; some carry higher provisions or lower ROA. This is more useful than a consolidated NPL alone, but no vintage, country, APR, charge-off or risk-adjusted return table is supplied. A 1.0% 90-day NPL on a rapidly growing, short-duration book is encouraging, not a full-cycle certificate.

4. Compensation alignment

Founder skin in the game is substantial but voting alignment is not proportional. Li economically owns at least 2.368 million Class A shares directly or through a controlled entity plus all 45.528 million Class B shares, before options and proxy-held shares. The statutory beneficial-ownership presentation is 16.0% of shares and 57.6% of voting power because it also includes exercisable options and voting proxies. One Class B share carries 15 votes versus one for Class A. The economic exposure supports long-term orientation; the 42-point voting/economic gap weakens minority accountability.

Sea discloses only US$3.13 million of 2025 cash fees and compensation for directors and executive officers as a group, excluding equity awards, plus 50,345 executive/director RSUs. There is no named-executive table, target/actual bonus bridge, or public weighting for ROIC, FCF per share, credit losses or multi-year relative TSR. The 2009 plan is discretionary and its authorized pool automatically increased by 3% of outstanding shares each January from 2023 through 2026; 37.368 million options, 7.689 million RSUs and 0.162 million SARs were outstanding at March 31, 2026.

Period	SBC, US$m	Revenue, US$bn	SBC / revenue
FY2021	470.3	9.955	4.72%
FY2022	705.9	12.450	5.67%
FY2023	685.0	13.064	5.24%
FY2024	715.8	16.820	4.26%
FY2025	625.0	22.938	2.72%

Period	SBC, US$m	Revenue, US$bn	SBC / revenue
TTM Q2 2026	560.6	27.723	2.02%

The ratio is improving, but diluted weighted shares rose from 532.7 million in FY2021 to 638.2 million in FY2025, a 19.8% increase. The clawback policy recovers erroneously awarded financial-metric compensation after a restatement for the prior three fiscal years and does not require misconduct. The insider policy requires pre-clearance and trading windows and restricts pledging/margin use without approval, but no standalone categorical anti-hedging ban or executive concentration requirement was located. [Clawback policy](https://www.sec.gov/Archives/edgar/data/1703399/000114036124022429/ef20015280_ex97-1.htm); [insider-trading policy](https://www.sec.gov/Archives/edgar/data/1703399/000119312525084311/d940352dex112.htm).

Named selling is not a thesis break. CFO Hou filed notices for 105,000 ADSs, about 2.9% of his disclosed beneficial holding, under a plan adopted March 19, 2026; no comparable founder sale was identified. Kuok filed for 30,000 ADSs in August. Numerous affiliate-entity Form 144 notices cannot be reliably attributed to named executives and are proposed, not necessarily executed, so they are not aggregated here. [Hou August Form 144](https://www.sec.gov/Archives/edgar/data/1703399/000196858226000842/primary_doc.xml).

5. Disclosure quality and candor across eight calls

Sea's official transcript PDFs preserve prepared remarks but end when Q&A opens. The call test therefore matched all eight official dates and prepared remarks to fresh exact-quarter full transcripts, then assessed the Q&A portion separately. [Official quarterly-results archive](https://www.sea.com/investor/quarterlyresults).

Call	Guidance discipline and difficult issue	Answer quality
Q3 2024	Maintained mid-20s Shopee GMV; raised Free Fire; asked about Temu, subsidies and capital return	Mixed: quantified logistics/ad progress; deferred 2025 and capital-return specifics
Q4 2024	FY2024 exceeded original guidance; set 2025 Shopee GMV at about 20%	Direct on growth/profit balance; limited country economics
Q1 2025	Reaffirmed 2025 trajectory; challenged on shipping subsidies and off-Shopee investment	Mixed: explained accounting and economics, but no complete margin bridge
Q2 2025	Indicated full-year GMV would exceed the initial 20%	Direct on Brazil competition and ad take rate; sparse country P&L
Q3 2025	Raised FY2025 GMV to more than 25%; margin compressed	Directly attributed investment and acknowledged Chile/Colombia winddowns
Q4 2025	FY2025 GMV reached 26.8%; guided 2026 to around 25% with EBITDA discipline	Good strategic detail; no 2027 guidance or full investment payback schedule
Q1 2026	Reaffirmed guidance after 30.2% GMV growth	Mixed: seasonality was candid; buyback valuation framework remained undisclosed
Q2 2026	Maintained around-25% GMV and added a US$1bn Shopee adjusted-EBITDA milestone	Mixed: quantified unit economics; delinquency/provision answer addressed mix but not the requested trend

There were zero observed guidance misses in this window. Management raised or strengthened expectations only after reported momentum was visible, a positive. Hedge markers such as “headwind,” “relatively stable,” “fluctuation,” “challenging” or “too early” appeared in 8/8 calls. Most were legitimate qualifiers, not euphemisms for contraction, but “relatively stable competition” is repeated too often without share data. Q2's response to rising credit provisions is the clearest current weakness: it named off-Shopee and Brazil mix, yet did not quantify delinquencies or explain the effect on prospective loan growth.

Voluntary disclosure is above minimum at the platform level: ad take-rate changes, ad-paying sellers, logistics cost/order, delivery speed, fulfillment, loan balances, on/off-book mix, 90-day NPLs, game bookings and users. It stops before the load-bearing product economics: no country profit, Monee vintages or charge-offs, complete advertising dollars, title revenue, or seller-cohort profitability. The prospective Q3 2026 change to Garena adjusted EBITDA was disclosed in advance with a promise of supplemental deferred-revenue information, which is the correct behavior.

6. Strategic coherence

Sea's stated mission is to “better the lives of consumers and small businesses with technology.” The operating logic is coherent: Shopee supplies commerce and merchant traffic; Monee monetizes payments and credit; Garena supplies

high-margin cash and digital-product capability. R&D, logistics/fulfillment spending, low M&A, and the Google/OpenAI partnerships fit that strategy. Management names social commerce, cross-border competition, credit mix and game concentration when analysts ask, but usually frames competition as stable in prepared messaging.

The five-to-ten-year destination is clearer than in 2021: profitable Shopee scale, broader Monee penetration and a diversified Garena portfolio. The risk is that “investing into the moat” becomes renewed subsidy growth or underpriced credit. Strategy is coherent; capital discipline and per-share value protection are not yet structurally assured.

7. Governance and minority-shareholder flags

The founder controls 57.6% of votes with 16.0% statutory beneficial ownership; Class B carries 15 votes and has no disclosed sunset. ADS holders own depositary claims on Class A shares and face Cayman enforcement limits. Shareholders cannot put proposals before an AGM under the articles unless they first requisition an extraordinary meeting with at least one-third of voting power—impractical against Li's control. The September 2025 AGM had no proposal submitted. [2025 AGM notice](https://www.sec.gov/Archives/edgar/data/1703399/000119312525193518/d74390dex992.htm).

Sea follows Cayman home-country exemptions: no majority-independent board, a two-member audit committee, no shareholder vote required for equity plans, and non-independent compensation/nominating committees. VIEs produced less than 3% of FY2025 revenue and none is individually significant, limiting but not eliminating contractual-control risk. Local VIE shareholders may have conflicts, and ADS investors lack direct ownership of those operating interests.

Related-party activity is not zero. Sea donated S$10 million, or US$7.8 million, to the Football Association of Singapore in December 2025 after Li became its president. The amount is small relative to revenue, but it is exactly the type of controller-adjacent use of corporate funds that should be approved and explained by a fully independent committee. Related-party services with an equity-method investee were larger operationally but disclosed.

There was no restatement or material weakness: management and EY concluded FY2025 controls were effective, and EY issued unqualified opinions. No SEC enforcement was identified. However, 2025 final judgments approved US$40 million and US$46 million settlements of securities class actions alleging offering misstatements/omissions and Exchange Act violations. The settlements dismissed the cases and are not findings of wrongdoing; they still prevent a clean candor PASS.

8. Peer comparison

CEO / company	Five-year stewardship comparison with Li
Ariel Szarfsztejn / MercadoLibre	New CEO in 2026, inheriting Marcos Galperin's stronger record of compounding commerce, logistics and fintech through cycles; MercadoLibre remains the superior per-dollar benchmark and discloses under a domestic U.S. regime
Bom Kim / Coupang	Founder-led and capital intensive, but Coupang has a lead independent director and fully independent key committees; Sea has broader profit pools and a sharper recent earnings recovery, while Coupang offers stronger minority-governance machinery
Anthony Tan / Grab	Sea has the better operating-profit and FCF record; Grab's 2026 board is majority independent, though Tan also chairs and participates in key committees and Grab is pursuing larger acquisitions

Li ranks second of these four on operating stewardship—behind MercadoLibre, ahead of Grab and roughly comparable with Coupang—but last on disclosure and minority-shareholder protection. That split explains why strong execution does not clear the management gate. [MercadoLibre management](https://investor.mercadolibre.com/about-meli); [Coupang board](https://ir.aboutcoupang.com/governance/board-of-directors/default.aspx); [Grab board update](https://investors.grab.com/news-and-events/news-details/2026/Grab-Announces-Update-to-its-Board-of-Directors-2026-1yqZhyP3jI/default.aspx).

9. Management gate verdict

FAIL. The team is experienced, adaptive and operationally strong, and Q2 2026 adds genuine evidence of Shopee unit-economics improvement, stable headline credit quality and price-sensitive repurchases. Those positives are outweighed by a controller structure that leaves minority shareholders with no practical governance remedy, founder control of compensation and nominations, an equity plan outside ordinary shareholder approval, insufficient named-executive performance disclosure, a controller-adjacent donation, and the two 2025 securities-litigation settlements. The specific signal flipping the valid May operating reasoning from YELLOW to FAIL is not Q2 performance; it is revalidation of the complete FY2025 governance record against the framework's explicit minority-protection standard.

Upgrade to YELLOW requires all of the following: a majority-independent board and disclosed lead independent director; fully independent compensation and nominating committees; a binding Class B sunset or voting power below 50%; shareholder approval of future equity-plan expansions; named-executive pay metrics anchored to multi-year ROIC/FCF per share and credit losses; and net dilution below 1% for four consecutive quarters. PASS would then require eight quarters of those protections plus clean related-party oversight and through-cycle Monee evidence.

FAIL is reaffirmed if any new controller-related transaction above 0.05% of revenue lacks independent approval; SBC returns above 3% of revenue while buybacks merely recycle awards; Monee 90-day NPL exceeds 1.5% or provisions outgrow loans for two quarters without cohort disclosure; or the board reaches the 2027 AGM without structural remediation. These are monitorable conditions, not a trade, portfolio, ranking or sizing instruction.

Appendix W - Moat and 2046 Durability

Sea Limited — Moat and 2046 Durability

Assessment date: 2026-08-25 SGT **2046 test date:** 2046-08-25 **Financial anchor:** TTM ended 2026-06-30; exact five-year forecast horizon 2031-06-30 **Evidence boundary:** DR-cleared `data_package.md` SHA-256 `34b9edbd060ff3ab31e5139b60d79e34512ff7ef7116b53fbe51a4d41dda2de8`; quote/statutory seals `c74da8bc0985413d450e6454e9e3f7ca08e79017629340dab48baff3e141b2dd` and `0ab960edaa262fb4fc1f2090d6e90a17ea720d6dfd6d92be220fab8d211bc271`. Fresh 2026-08-25 segment appendices were checked for placeholders and their Sections 4/5 read before this appendix was written. **Authority boundary:** Research evidence only. No trade, portfolio, ranking, sizing, message, or execution authority. `trade_execution_authorized=false`.

1. Moat taxonomy applied

Network effects — strong in Shopee, real but narrower elsewhere

Shopee has a country- and category-level two-sided network: more buyers attract more sellers and assortment; more sellers improve price discovery and selection; more orders generate search, conversion, fraud, fulfillment, and advertising data. Order density can lower delivery cost and improve speed, which feeds conversion again. This is observable: Shopee produced US$38.3 billion of Q2 2026 GMV and 4.2 billion orders, while its fresh segment appendix cites an estimated 53% share of Southeast Asian platform-commerce GMV in 2025. The network is not winner-take-all. Buyers and sellers multi-home, TikTok Shop owns a large attention graph, and Mercado Libre is entrenched in Brazil. Monee has a data-learning loop rather than a pure network effect. Garena's Free Fire has a title-specific social graph among friends, guilds, creators, and esports communities.

Switching costs — moderate, mostly workflow and habit rather than contractual lock-in

Shopee sellers can list elsewhere, but moving catalogues, ad campaigns, ratings, chat workflows, payment reconciliation, fulfillment inventory, returns, and analytics together is costly. Buyers retain purchase history, reviews, payment familiarity, VIP benefits, saved preferences, and delivery expectations, yet can install another app in minutes. Monee's switching costs rise with a recurring credit line, repayment history, wallet balance, deposits, insurance, or merchant cash-flow integration, but users can compare several apps. Free Fire players would lose rank, cosmetics, mastery, friends, guilds, and community status by leaving the title, although this does not bind them to Garena's next game.

Scale economies — potentially the most valuable group advantage

Shopee's scale spreads technology, trust-and-safety, marketing, sorting, fulfillment, and local operations across more orders; Q2 management said Indonesian instant-delivery orders rose about 80% while cost per order fell about 20%. Advertising has particularly attractive scale economics because an existing high-intent audience can be monetized at low incremental delivery cost. Monee can spread risk models, fraud systems, servicing, compliance, and collections across a US$11.1 billion loan book and more than 40 million active credit users, but capital and funding costs do not disappear with software scale. Garena's content and development costs can be spread over more than 100 million average daily Free Fire users, explaining high segment margins, but hit creation remains expensive and uncertain. Sea's capital-light use of leased facilities improves asset efficiency; it does not make logistics or lending economically weightless.

Brand — strong at Shopee and Free Fire; still being earned at Monee

Shopee's regional leadership, buyer growth, seller participation, and official-brand onboarding show a trusted consumer brand. Free Fire's ninth-year audience and cultural localization establish a durable franchise brand among emerging-market mobile gamers. Monee benefits from Shopee distribution, but financial trust must survive collections, fraud, privacy, and a credit downturn. Brand reinforces network density; it does not prevent multi-homing.

Regulatory assets — a barrier and a liability, primarily for Monee

Payments, lending, banking, insurance, data, and collections require country-specific licenses, compliance systems, local capital, and regulator relationships. These make a credible Monee clone slower and more expensive to build. They do not confer exclusivity: Grab, GoTo, Nubank, banks, and other licensed fintechs possess similar permissions. Regulation can also cap fees, constrain data use, raise capital needs, or suspend access. Sea's [FY2025 Form

20-F](https://www.sec.gov/Archives/edgar/data/1703399/000114036126015366/ef20067274_20f.htm) explicitly warns that competitors may obtain licenses Sea cannot and that pricing or incentives may have to respond. Regulatory capability is therefore a moderate moat only when paired with superior data, funding, and conduct.

IP and proprietary data — concentrated, not a group-wide patent moat

Garena owns the Free Fire franchise and possesses live-operations content, code, localization, and community know-how; some pipeline titles are licensed and therefore do not carry the same economics. Shopee's proprietary commerce graph and Monee's sequence of behavioral, transaction, fulfillment, and repayment observations are more valuable than patents. In the [Q2 2026 official call transcript](https://cdn.sea.com/investor/2Q2026/wFBC39MbqnfLb3MGY6LP/2026.08.11%20Sea%20Second%20Quarter%202026%20Earnings%20Call%20Transcript.pdf), Sea said its transformer-style credit model raised approval rates about 10% at a similar risk level. That is encouraging operational evidence, but competitors also possess ecosystem data, and open-finance or bureau data can narrow the gap. Generic access to Google or OpenAI models is not proprietary.

High-trust procurement — largely absent

Sea is a consumer platform, not a mission-critical enterprise vendor embedded through decade-long procurement cycles. Trust matters in buyer protection, seller settlements, deposits, payments, fraud control, and gaming, but merchants and consumers face low formal barriers to using competitors. This lens contributes only modestly to the moat.

2. Per-segment moat and the blended company

Shopee — strong but contestable; 10-year visibility, not yet a clean 20-year proof. Its moat is localized buyer/seller density plus integrated logistics, payments, trust, content, and high-intent advertising data. The attack is straightforward: TikTok Shop captures discovery and creators, Lazada subsidizes selected markets, Mercado Libre out-executes in Brazil, or direct brands bypass the marketplace. Those attacks fail only if Shopee keeps delivered price, assortment, fulfillment speed, and seller ad returns competitive without buying volume. The earliest break signal is GMV growth below the relevant market for four consecutive quarters while incentives rise, ad-paying sellers slow, or fulfillment unit economics reverse.

Monee — real but unproven; five-year moat conditional on credit-cycle evidence. The core advantage is embedded Shopee distribution and closed-loop underwriting/repayment data, reinforced by licenses, servicing, collections, and multi-country scale. The segment's fresh appendix correctly notes that GoTo, Grab, Nubank, and banks also own dense data and funding channels. The attack is lower-cost funding, cheaper prime credit, national payment rails, open-finance data, or regulation that standardizes scoring and caps monetization. The earliest break is a rise in vintage-adjusted credit loss, fraud, funding cost, or acquisition expense faster than loan balances, especially off-Shopee. A 1.0% 90-day NPL ratio is supportive but too aggregated and too early in a 62.5%-growing loan book to establish through-cycle superiority.

Garena — real, lucrative, and narrow; five-to-ten-year franchise moat. Free Fire's social graph, owned IP, nine-year live-operations record, low-device optimization, localization, esports, payments, and more than 100 million average daily users are difficult to reproduce quickly. The attack is not cloning one feature; it is winning player time with a better game, creator ecosystem, platform distribution, or entertainment format. Garena's FY2021-FY2024 revenue contraction proves the franchise is cyclical despite durability. The earliest break is two years of material Free Fire bookings decline, falling payer conversion and engagement, or a costly pipeline that fails to create a second meaningful bookings pool.

Other Services — no demonstrated moat. The constituent businesses, customers, pricing, retention, and unit economics are not disclosed. The bucket produced recurring losses, and shared Sea distribution cannot be assigned automatically to an unidentified activity. The best outcome may be rationalization or migration into a core segment rather than standalone growth. Its earliest negative signal is continued absolute loss growth; the first positive proof would be product disclosure plus positive, repeatable segment profit.

The blend is materially weaker than Shopee's headline market position suggests. On the TTM bridge, Shopee represented about 72% of revenue but only 18% of the four-segment profit sum; Monee represented about 17% of revenue and 36% of segment profit; Garena represented about 10% of revenue and 50% of segment profit; Other Services reduced that sum by about 5%. Thus current profit remains disproportionately dependent on the narrowest moat, Free Fire, while the largest revenue engine has only recently achieved a thin profit margin and the fastest-growing profit pool is lending into an unseasoned credit cycle. This composition is the central reason the group moat is not a PASS today.

3. Margin persistence evidence

The cleared package supplies a consistent five-year history, not a full ten-year series. That limitation matters: Sea does not yet have decade-long evidence of stable consolidated profitability.

Operating margin	FY2021	FY2022	FY2023	FY2024	FY2025	TTM 2026-06-30
Consolidated statutory	-15.9%	-11.9%	1.7%	3.9%	8.7%	8.2%
Shopee segment	-54.0%	-27.6%	-6.1%	-1.1%	3.5%	about 2.7%
Monee segment	-136.3%	-22.7%	27.9%	27.8%	25.7%	about 21.9%
Garena segment	57.9%	50.8%	54.2%	51.2%	49.2%	about 52.1%
Other Services segment	-418.5%	-407.6%	-43.2%	-34.8%	-52.2%	about -78.5%

Garena is the only segment with persistent high margins, but its revenue fell from US$4.32 billion in FY2021 to US$1.91 billion in FY2024 before recovering to US$2.41 billion in FY2025. Stable margin percentage through a shrinking revenue base demonstrates flexible digital economics and franchise monetization, not stable total profit. Shopee's loss-to-profit swing is powerful evidence of scale and discipline, yet quarterly margins of 2.56%, 2.43%, 2.72%, and 2.87% from Q3 2025 through Q2 2026 show that profitability remains thin and competition-intensive. Monee's margin fell from 25.1% to 19.9% across those four quarters as newer cohorts and off-platform growth increased; the business has not been cycle-tested at its current scale. Consolidated margin expansion is real, but it is a three-year improvement story rather than ten-year persistence.

4. AI disruption stress test

Shopee is not merely a prompt-to-output workflow. A foundation model can improve or commoditize search, recommendations, listing creation, ad tools, customer service, and seller analytics. More dangerously, an AI shopping agent or social platform can own discovery and route purchase intent among marketplaces, taking part of Shopee's advertising economics. It cannot by itself recreate merchant supply, fulfillment density, payments, buyer protection, returns, fraud control, and local regulatory operations. Shopee is therefore platform-adjacent with physical and trust chokepoints. Its moat survives AI if proprietary transaction outcomes improve conversion and delivery more than generic models improve competitors.

Monee is the most AI-protected major segment, but only conditionally. Document review and model architecture are replicable workflows; Sea already said AI cut income-document review time about 95%. The defensible layer is the labeled outcome data, licenses, funding, underwriting governance, fraud operations, collections, and capital at risk. AI can improve approval and servicing, but competitors with open-finance data and their own repayment histories can do the same. Monee's advantage must appear in stable vintage losses and acquisition cost, not model nomenclature.

Garena is the most exposed major segment. Generative tools lower the cost of producing art, dialogue, maps, live events, localization, and even playable prototypes, expanding entertainment supply and imitation risk. AI may also personalize games and accelerate Garena's content cadence. The protected layer is Free Fire's existing community, social graph, owned IP, esports, and accumulated live-operations judgment; none guarantees that the next attention platform or game will belong to Garena.

Other Services is the most exposed segment overall because its products are unidentified; any software or service workflow could be commoditized without evidence of distribution, proprietary data, regulation, or physical capacity. Sea's Google and OpenAI partnerships are useful capabilities, not moats by themselves.

5. The 2046 test

Today is **2026-08-25**; the twenty-year test date is **2046-08-25**.

Plausible 2046 business description: Sea Limited operates localized commerce and financial infrastructure across Southeast Asia, Taiwan, Brazil, and selected adjacent markets. Shopee connects consumers, merchants, brands, creators, and logistics partners; it earns transaction fees, high-intent advertising revenue, and fulfillment/service fees from a dense regional marketplace. Monee provides regulated payments, deposits, consumer and SME credit, insurance, and merchant financial tools, monetizing net interest, fees, and risk services using twenty years of transaction and repayment outcomes. Garena is a smaller owned-IP game studio and publisher centered on Free Fire's successor ecosystem and at least one additional durable franchise; licensed publishing is secondary. Other Services has either been absorbed into the core platforms or closed. Merchants and brands pay Sea because its buyer intent, fulfillment reliability, and measurable ad conversion are difficult to assemble elsewhere; financial users pay because Sea can underwrite and serve them conveniently at a risk-adjusted cost competitors cannot consistently match. Consolidated operating margin is directionally **higher than the current 8.2%**, because advertising and marketplace scale outweigh logistics intensity and residual losses disappear, but it

remains below pure-software margins because credit capital, losses, compliance, and fulfillment remain integral.

That description is specific, but it is not yet sufficiently evidenced for PASS. It depends on Shopee converting regional leadership into durable profit without losing price competitiveness; Monee preserving underwriting and funding advantages through multiple credit cycles; and Garena reducing Free Fire concentration. The strongest 2046 moat would be the combined local supply-demand/logistics graph and regulated financial-data loop, not a generic claim that Sea will remain a technology leader.

2046 bear description: social and AI-native discovery platforms own consumer attention and product search, turning Shopee into a low-margin fulfillment and checkout utility while merchants multi-home. Open-finance data and generic models erase much of Monee's informational advantage; banks fund prime borrowers more cheaply, regulation caps pricing, and adverse selection leaves Sea with riskier credit. Free Fire ages without a successor. Sea still exists, but as a capital- and subsidy-intensive regional logistics/lender with volatile single-digit margins and little pricing power. This is a meaningful, not remote, outcome—roughly a one-in-three durability risk on current evidence—because every mechanism is already visible in the competitive set.

6. Competitive threat inventory

Threat	Mechanism	Segment(s) affected	Earliest observable signal	Plausibility
Social/AI discovery captures commerce intent	TikTok, search, creators, or shopping agents own demand generation and ad budgets; Shopee retains lower-margin transaction and logistics work	Shopee; Monee indirectly	GMV trails market for four quarters; ad take-rate gain reverses; creator orders slow while incentives rise	High
Credit advantage fails outside Shopee or through a downturn	Open-finance data narrows scoring advantage; banks have cheaper funding; newer cohorts bring adverse selection and regulatory caps	Monee; Shopee demand	90-day NPL exceeds 2%; provisions outgrow balances for four quarters; segment margin falls below 15%; partner funding retreats	Medium-high
Free Fire concentration becomes terminal	Player attention migrates; platforms or competing titles capture community; pipeline remains licensed or unsuccessful	Garena	Two-year Free Fire bookings decline above 20%; payer ratio falls; no non-Free Fire franchise reaches material bookings	Medium-high

7. Pricing power verification

Shopee supplies the strongest observable evidence. In Q2 2026, advertising revenue rose more than 70% year on year, ad take rate improved by more than 90 basis points, ad-paying sellers rose about 45%, and average spend per seller increased more than 15%. Adoption rose alongside spend, suggesting sellers saw enough incremental conversion to accept higher monetization. ShopeeVIP exceeded 15 million members with about 80% average monthly retention in Asia, and sellers/partners increasingly co-funded benefits. This is advertising and ecosystem pricing power, not proof that base transaction commissions can rise freely. Core marketplace revenue grew 66% while orders grew 27.5%, but advertising dollars and transaction fees are not separately disclosed, so the exact price-volume bridge remains incomplete.

Monee has **unverified pricing power**. Fast, embedded credit may command attractive risk-adjusted pricing, but the issuer does not disclose APR, fee, funding-cost, cohort-loss, or renewal curves. Its segment margin compressed as the loan book expanded and mix shifted off-Shopee. The 1.0% 90-day NPL is encouraging, not a substitute for through-cycle net yield. Deposits, prime loans, wallet payments, and national QR rails are price transparent and competitive.

Garena has **monetization resilience rather than demonstrated price increases**. Segment margins stayed near 49%-58% over FY2021-FY2025 and returned above 54% in Q2 2026, even through a large revenue cycle. That shows digital variable-cost flexibility and willingness to pay for Free Fire content. No disclosed recent virtual-item price increase, churn response, or contractual commitment proves conventional pricing power. Other Services has none.

Sea does not rely on multi-year escalators or minimum purchase commitments. Most revenue is transactional, usage-based, credit-linked, or virtual-item based. Group pricing power is therefore **partial and observable in Shopee advertising, conditional in Garena, and not yet verifiable in Monee or Other Services**.

8. Moat verdict

Moat gate: YELLOW

2046 test: YELLOW

Sea has real current moats: Shopee's localized marketplace/logistics/advertising density, Monee's embedded distribution and outcome-data loop, and Free Fire's social graph and live-operations franchise. The gate does not pass because the blended profit pool is still dominated by title-specific Garena and rapidly growing, unseasoned credit, while Shopee's large revenue base has only a short, thin margin record. Pricing power is clearly observable only in Shopee advertising. The 2046 company can be described specifically, but its economics require three unresolved durability proofs rather than ordinary execution.

Gate path	Observable signals
Upgrade both gates to PASS	Shopee holds or gains regional share for at least three years while segment margin exceeds 5% and incentives do not rise faster than GMV; Monee keeps 90-day NPL at or below 2% and segment margin at or above 20% through a genuine macro/credit downturn with disclosed vintage and funding evidence; Garena establishes a second owned or economically durable franchise representing at least 20% of bookings while Free Fire remains stable
Keep at YELLOW	Shopee remains the leader but margins stay 2%-5%; Monee growth remains fast with stable headline NPL but no through-cycle cohort/funding disclosure; Garena remains profitable but Free Fire-centric
Downgrade both gates to FAIL	Shopee loses more than five percentage points of regional share or trails market growth for four quarters while subsidies rise; Monee 90-day NPL exceeds 3%, segment margin falls below 15%, or funding/regulatory constraints structurally impair returns; Free Fire bookings decline more than 20% for two consecutive years without a material successor, and consolidated operating margin falls below 5% despite continued scale

YELLOW is not a courtesy grade. It identifies one precise unresolved question: **can Sea shift its profit mix from a narrow game franchise and an unseasoned lender toward a demonstrably durable Shopee-Monee infrastructure profit pool without sacrificing share, credit quality, or pricing discipline?** Until the observable upgrade conditions are met, the 20-year compounder moat remains plausible rather than proven.

Appendix B1 - Shopee

Shopee — Segment Deep Dive

Production ER2 run: `pulse-cio-20260825T060138+0800` **Action:** `CIO-20260822-SE-FULL-ER2` **Information cutoff:** 2026-08-25 SGT **TTM anchor:** Q3 2025 + Q4 2025 + Q1 2026 + Q2 2026, ended 2026-06-30 **Exact five-year horizon:** 2031-06-30 **Currency:** US dollars; financial tables use US$ billions unless stated otherwise **Exact sealed profit basis:** **Operating segment income (loss) Authority boundary:** Research evidence only. No trade, message, portfolio, ranking, sizing, or execution authority. `trade_execution_authorized=false`.

0. Segment boundary and taxonomy note

Shopee is Sea Limited's e-commerce segment: the marketplace, transaction-based services, advertising and seller tools, logistics and fulfilment services, and the portion of direct sales of goods assigned to Shopee in Sea's segment table. The label changed from “E-commerce” to “Shopee” during 2025, but the FY2025 Form 20-F supplies current-label comparatives and the underlying economic boundary is continuous [data_package §1, taxonomy paragraphs]. A crucial accounting boundary is not negotiable: **sales of goods is a consolidated revenue nature, not a standalone segment, and not all of it belongs to Shopee**. In Q2 2026, Shopee segment revenue was US$5.587577 billion, while Shopee service revenue was US$4.931861 billion; the US$0.655716 billion difference is the Shopee allocation of sales of goods. Consolidated sales of goods was US$0.657726 billion, leaving US$0.002010 billion in Other Services [data_package §1, revenue-nature taxonomy paragraph; Sea Q2 2026 Exhibit 99.1, segment and revenue-breakdown tables]. This appendix models only the Shopee allocation and leaves Other Services to its own segment model. The arithmetic is exact: `5.587577 - 4.931861 = 0.655716`, and `0.657726 - 0.655716 = 0.002010`.

The sealed statutory bridge identifies four additive modeled segments and a common exact profit metric, **Operating segment income (loss)**. Shopee's TTM value on that basis is US$0.530387 billion [data_package §3a, TTM bridge, Shopee row]. Unallocated expenses and all below-line items remain outside this model; assigning them to Shopee would double count the bridge work performed in synthesis.

1. What Shopee actually is

Shopee is a mobile-first, two-sided commerce network serving buyers, third-party merchants, brands, creators, and logistics partners across Southeast Asia, Taiwan, Brazil, and selected adjacent markets. A buyer sees search, recommendations, livestreams, short video, reviews, payments, vouchers, delivery tracking, and after-sales support in one app. A seller receives storefront tools, traffic acquisition, advertising, campaign participation, payments integration, fulfilment options, analytics, and access to a regional demand pool. Shopee's economic product is therefore not merely an online catalogue. It is a conversion, trust, payment, and delivery system that tries to reduce the friction between discovery and completed order.

The model has four revenue engines. First, **transaction and marketplace services** monetize paid orders through commissions and other transaction-based seller fees. Second, **advertising and seller tools** sell visibility and conversion inside Shopee's high-intent traffic. Sea does not disclose advertising dollars separately, so this appendix treats the split inside core marketplace revenue as an analyst allocation, never as issuer history. Third, **value-added services** are mainly logistics-related services. Their reported revenue can fall even when physical parcel volume rises because Shopee can net shipping subsidies, alter principal-versus-agent presentation, or improve the unit economics of fulfilment. Fourth, **allocated sales of goods** reflects only direct sales that Sea's segment reporting assigns to Shopee.

The go-to-market loop has several layers. Shopee acquires and retains buyers through broad assortment, low delivered prices, campaigns, content, reliable delivery, and integrated payments. It acquires sellers with access to demand and operating tools. The marketplace then monetizes both the transaction and the attention around the transaction. Logistics deepens reliability and permits tighter service standards, while Monee can reduce payment friction and expand buyer or seller access to credit. Those benefits are real, but the financial perimeter in this appendix remains Shopee: Monee's lending income and credit losses are not imported into Shopee's economics.

Pricing power is best thought of as a budget rather than a static fee. Shopee can raise commissions, sell more ads, introduce paid seller tools, or reduce subsidies; but each action is constrained by seller return on ad spend, total merchant economics, buyer prices, and competing traffic from TikTok Shop, Lazada, and Mercado Libre in Brazil. The relevant five-year question is whether Shopee can expand monetization while keeping seller churn, order frequency, and delivery quality within healthy ranges.

2. Current economics

Shopee generated **US$19.972 billion of displayed TTM segment revenue** through 2026-06-30, the sum of Q3 2025 US$4.295 billion, Q4 2025 US$4.975 billion, Q1 2026 US$5.114 billion, and Q2 2026 US$5.588 billion [data_package §5, segment revenue table, Shopee row; Sea Q3 2025 through Q2 2026 Exhibits 99.1]. The exact underlying quarterly sum is US$19.970569 billion; US$19.972 billion is the appendix's three-decimal analytical base because each product anchor is separately rounded to three decimals. Its TTM **Operating segment income (loss)** was **US$0.530387 billion**, or **2.66% of exact revenue**, on the sealed basis [data_package §3a, TTM bridge, Shopee row; official TTM reconciliation extract]. Q2 revenue grew 48.2% year over year while Q2 margin reached 2.87%; quarterly margin was positive but narrow throughout the TTM—2.56%, 2.43%, 2.72%, and 2.87% [data_package §5, segment revenue and profit-margin table; Sea Q3 2025 through Q2 2026 Exhibits 99.1]. This is an important quality constraint: Shopee has moved decisively past the FY2021-FY2024 loss era, but current statutory segment profit still provides limited protection against a renewed subsidy or logistics-investment cycle.

TTM GMV was **US$144.5 billion**, calculated from the four verified quarterly observations of US$32.2 billion, US$36.7 billion, US$37.3 billion, and US$38.3 billion [data_package §5, Shopee GMV row]. TTM gross orders were **15.8 billion**, from 3.6, 4.0, 4.0, and 4.2 billion [data_package §5, Shopee gross-orders row]. The resulting average GMV per gross order is about **US$9.15**. Total segment revenue divided by GMV is **13.82%**, but that ratio is not a pure take rate: it includes logistics/value-added services and Shopee-allocated direct sales of goods. Shopee service monetization must therefore be kept conceptually separate from sales-of-goods revenue.

The current quarter shows why revenue outpaced GMV. Q2 core marketplace revenue was about US$4.3 billion and grew 65.6%, while value-added services revenue was US$0.6764 billion and declined 9.0% [data_package §4, current-dollar evidence rows]. Q2 GMV grew 28.4% and orders grew 27.5% [data_package §5, KPI table]. Marketplace monetization, including transaction fees and advertising, therefore increased much faster than commerce volume. Q3 2025 advertising revenue alone rose more than 70% year over year, though Sea did not disclose its dollar amount [data_package §4, rate-only product table]. This makes advertising the most attractive incremental-margin mechanism and the largest measurement gap.

For the bottom-up model, the TTM segment total is disaggregated using Q2's issuer-disclosed mix, then core marketplace revenue is split 70% transaction/platform services and 30% advertising/seller tools as an explicit analyst assumption. The exact allocation before display rounding is US$10.646616 billion transaction/platform services, US$4.562835 billion advertising/seller tools, US$2.417522 billion value-added logistics services, and US$2.343596 billion Shopee-allocated sales of goods. The displayed anchors are US$10.647 billion, US$4.563 billion, US$2.418 billion, and US$2.344 billion, summing to the US$19.972 billion analytical base. **Every product revenue and product margin below is an analytical allocation, not an issuer-disclosed product series or product P&L.** The 70/30 split is a forecasting device that makes the advertising mechanism visible.

[DATA GAP: Sea does not disclose a complete TTM dollar series for advertising, transaction fees, logistics revenue, or product-level Operating segment income (loss). The TTM product allocation above is an analyst estimate calibrated to the verified TTM segment total and Q2 disclosed mix.]

Capital intensity is mixed. Sea's consolidated cash capex was only 2.2% of revenue in FY2025 [data_package §7, capital-allocation table], and management describes fulfilment centers as generally leased rather than owned [data_package §6, Shopee narrative]. That supports a capital-light ownership description, but not an asset-free economic description. Warehouses, sortation, line-haul capacity, last-mile partners, lease commitments, technology, customer service, and working capital still require cash or contractual capacity. A leased network can reduce reported PPE while leaving real fixed-cost exposure in fulfilment economics.

3. Unit economics

Shopee's unit economics begin with GMV and orders, then separate monetization from cost-to-serve. The TTM base of US$144.5 billion GMV and 15.8 billion gross orders implies US$9.15 GMV per order. That low ticket size makes per-order fulfilment, payment, customer-service, and refund costs unusually important. A few cents of net shipping cost or promotional support per order can move annual segment profit materially when applied to more than fifteen billion orders.

Transaction services. The economic driver is paid GMV multiplied by commission and transaction-fee incidence, adjusted for refunds, waivers, seller tier, category, and geography. Incremental gross margin should be high once payment and platform costs are covered, but the retained margin is lower than a simple software fee because Shopee often recycles monetization into vouchers, seller support, content, and logistics. In the TTM allocation, transaction/platform services are

7.37% of GMV. The five-year model does not assume that all headline fee increases become profit; it raises revenue monetization gradually while separately limiting the terminal attributed margin.

Advertising and seller tools. Advertising monetizes high-intent product discovery and is not mechanically tied to a fixed commission schedule. Revenue can rise through more ad-active sellers, more inventory, better targeting, higher conversion, and price per click or attributed sale. The cost base is dominated by product engineering, data, sales support, moderation, and traffic acquisition already incurred to run the marketplace. That makes advertising the clearest positive mix driver. The constraint is seller return on ad spend: if merchants pay more but receive weak conversion, ad budgets migrate to TikTok, Meta, Google, or competing marketplaces. The base case therefore lets advertising compound fastest but slows annual growth from 42% in year one to 10% in year five.

Logistics and fulfilment. Value-added services are mainly logistics. Revenue accounting is not identical to parcel economics. Shopee may collect shipping-related fees, pay third-party carriers, subsidize delivery, lease fulfilment capacity, or net parts of the arrangement. Q2 value-added-services revenue fell 9.0% even as orders grew 27.5%, which warns against forecasting logistics revenue simply as orders multiplied by a static reported fee. Unit economics can still improve if delivery density, route utilization, sortation, seller drop-off, automation, and service mix reduce net cost per parcel. Management reported sequential improvement in fulfilment unit economics and characterized the network as capital-light [data_package §6, Shopee narrative]. The base case assumes the product remains modestly loss-making on the exact segment-profit allocation at the horizon because competitive delivery standards absorb part of the density benefit.

Sales of goods. Direct sales carry inventory, markdown, obsolescence, returns, and working-capital risk. They are structurally lower-margin than marketplace or advertising revenue and can be strategically useful for category seeding or first-party assortment. The model applies only the Shopee segment allocation—US$2.344 billion in the TTM analytical split—not consolidated sales of goods. The base case lets the line grow 9.2% annually and remain loss-making at a negative 10% attributed Operating segment income (loss) margin. This conservatism prevents marketplace economics from being flattered by treating low-margin first-party revenue as though it were fee revenue.

The current product-profit attribution is deliberately approximate but ties. Transaction/platform services at a 5.10% attributed margin contribute about US$0.543 billion; advertising at 20% contributes US$0.913 billion; value-added services at negative 15% lose US$0.363 billion; and allocated sales of goods at negative 24% lose US$0.563 billion. The result is US$0.530 billion, matching sealed TTM segment profit within rounding. These are not disclosed product margins. They are an analytical bridge showing that a plausible high-margin advertising pool can coexist with a low aggregate segment margin because fulfilment, direct sales, and marketplace reinvestment consume much of it.

The main positive margin mechanisms are advertising mix, commission normalization, seller-tool penetration, denser logistics, less subsidy per order, and fixed-cost leverage across product, trust, safety, and customer support. The main negative mechanisms are fee competition, creator subsidies, free-shipping thresholds, delivery-speed investment, wage and fuel inflation, returns and fraud, cross-border compliance, and direct-sales markdowns. Because the sealed metric is after segment operating costs, this appendix does not add a separate corporate-cost allocation.

4. Competitive dynamics

Shopee is the regional leader, but leadership does not mean unconstrained monetization. Momentum Works estimates that Southeast Asian platform e-commerce GMV reached US$157.6 billion in 2025, up 22.8%, with Shopee at 53% share and number one in all six core markets. The same research says TikTok Shop including Tokopedia reached 65.7% of Shopee's GMV, making it a scaled challenger rather than a niche entrant ([Momentum Works, April 2026](https://thelowdown.momentum.asia/new-report-southeast-asias-platform-ecommerce-reaches-us157-6b-in-2025-with-top-platforms-expanding-share-to-98-8/)). These third-party estimates use their own GMV methodology and should not be forced to tie Sea's reported GMV; their value is competitive direction.

The addressable market still grows. Google, Temasek, and Bain estimate Southeast Asia's digital-economy GMV exceeded US$300 billion in 2025 and describe e-commerce as a major component of that expansion ([e-Conomy SEA 2025](https://www.temasek.com.sg/content/dam/temasek-corporate/news-and-views/resources/reports/e-conomy-sea-2025-report.pdf)). That supports a multi-year volume runway, but market growth is not the same as Shopee growth. Country mix, offline-to-online penetration, category expansion, inflation, and cross-border supply all matter. Shopee's current roughly 28%-30% GMV growth is above a mature long-term regional assumption, so every case decelerates.

TikTok Shop competes from discovery rather than search. Its creator graph can generate demand before a buyer forms purchase intent, reducing the need to acquire traffic through conventional marketplace campaigns. TikTok says affiliate

creators in Singapore more than doubled year over year, while live-stream hours rose 1.7 times and e-commerce short videos 6.3 times ([TikTok Shop Creator Fest 2025](https://newsroom.tiktok.com/tiktok-shop-celebrates-the-power-of-content-and-commerce-at-creator-fest-2025?lang=en-SG)). Platform-supplied statistics are promotional, but they demonstrate the strategic mechanism: creator supply can turn entertainment engagement into commerce traffic. Shopee must respond with its own content, affiliates, ad tools, and subsidies, limiting near-term margin capture.

Lazada remains a credible regional platform with Alibaba ownership, established logistics, brand relationships, and technology. Its share is below Shopee's, but a rational competitor does not need to regain the lead to constrain fees. Lazada can focus on branded assortment, higher-value customers, and selected markets. **Tokopedia** adds local Indonesian merchant and user density to TikTok Shop's content funnel. Regulatory conditions in Indonesia can change operating structures, but the combined ecosystem remains a real threat.

Mercado Libre is the most relevant Brazil comparator because it combines marketplace, logistics, advertising, and fintech at scale. Its Q2 2026 GMV grew 44% in US dollars and 36% on an FX-neutral basis, while operating margin fell to 6.7% as it prioritized growth investment ([Mercado Libre Q2 2026 shareholder letter](https://www.sec.gov/Archives/edgar/data/1099590/000109959026000021/meli-20260805xex991.htm)). This is useful in two directions. It shows a scaled regional marketplace can sustain very high growth when logistics, price, and engagement reinforce one another; it also shows that even a leader may sacrifice current margin to defend the flywheel. Shopee's Brazil growth cannot be underwritten as a frictionless extension of Southeast Asian leadership.

Pricing power is strongest in advertising, where better conversion can justify more seller spend, and weakest where merchants compare all-in platform fees across marketplaces. Entry barriers are substantial—localized trust and safety, payments, logistics integration, seller density, demand liquidity, recommendation data, and campaign operations—but capital and content distribution can overcome parts of them. TikTok entered with enormous attention supply; Mercado Libre already owns powerful logistics and commerce habits in Brazil. The competitive equilibrium is likely an oligopoly with recurring reinvestment, not a winner-take-all monopoly.

Substitution risk also comes from outside full-stack marketplaces. Brands can use social media, messaging, direct-to-consumer sites, and offline stores. Search engines and social networks can capture advertising budgets even if transactions complete on Shopee. Logistics providers can weaken differentiation if delivery quality becomes widely available. Conversely, fragmented merchant bases and complex cross-border operations increase the value of an integrated platform, supporting Shopee's role.

5. Segment-level moat

Shopee's strongest moat is **localized network density**. More buyers attract more sellers; more sellers improve selection and price discovery; more transactions create data that improves search, recommendations, fraud detection, and ad targeting. Dense order flows improve delivery routes and carrier bargaining. These loops operate country by category rather than as one abstract global network, which is why local execution remains important.

The second moat is **workflow integration**. A seller who manages catalogue, campaigns, ads, chat, payments, fulfilment, returns, and analytics inside Shopee faces switching and multi-homing costs even if listing on another platform is technically easy. A buyer accumulates purchase history, saved preferences, reviews, payment familiarity, and delivery expectations. These are moderate rather than absolute switching costs, but at scale they can reduce acquisition cost and support repeat behavior.

The third moat is **data plus intent**. Shopee sees searches, clicks, conversion, price elasticity, order fulfilment, refunds, reviews, and seller response. That closed-loop commerce data can improve ad relevance and merchant ROI. Advertising then monetizes the existing demand network at high incremental margin. The Google and OpenAI partnerships cited in Sea's corporate-action inventory may improve models and interfaces, but no incremental revenue has been disclosed [data_package §9, AI partnership bullets]. The moat is therefore the proprietary commerce feedback loop, not access to a generic foundation model.

The fourth moat is **operational density in logistics and trust**. Reliable low-cost delivery, returns, buyer protection, fraud prevention, and dispute resolution are difficult to replicate across archipelagic and emerging-market geographies. Management's capital-light leasing approach may improve returns on owned assets, but the operating know-how and contracted network still take years to build. The moat strengthens when density lowers cost per parcel and service quality improves simultaneously.

The moat is not impregnable. TikTok has a differentiated discovery graph; Lazada has Alibaba resources; Mercado Libre is entrenched in Brazil. Buyers and sellers commonly multi-home, and subsidies can move volume. Regulation can alter cross-border economics or platform responsibilities. Accordingly, Shopee merits a **strong but contestable** segment moat: durable enough to support continued growth and monetization, not strong enough to assume uninterrupted fee increases or a terminal software-like margin.

Over five to ten years, moat durability depends on four observable outputs: stable or rising market share without excessive subsidy, improving seller return on ad spend, better fulfilment unit economics, and repeat order growth at a rational acquisition cost. If monetization rises while order growth falls materially below the market, the moat is being harvested rather than compounded.

6. Historical growth rates

The revenue table reproduces the finest verified dollar history. The Shopee segment total and Shopee service revenue are comparable from FY2023. Consolidated sales of goods is shown only as a revenue-nature control and **must not be read as Shopee revenue**. Every numerical cell cites its controlling data-package row. The primary-source chain is specific: the [FY2025 Form 20-F](https://www.sec.gov/Archives/edgar/data/1703399/000114036126015366/ef20067274_20f.htm) controls annual segment and revenue-nature history; the [Q3 2025](https://www.sec.gov/Archives/edgar/data/1703399/000119312525275616/d75589dex991.htm), [Q4 2025](https://www.sec.gov/Archives/edgar/data/1703399/000119312526088151/d106475dex991.htm), [Q1 2026](https://www.sec.gov/Archives/edgar/data/1703399/000119312526219378/d78490dex991.htm), and [Q2 2026](https://www.sec.gov/Archives/edgar/data/1703399/000119312526344596/d120948dex991.htm) Exhibits 99.1 control the TTM quarters and latest YoY figures.

Product or sub-segment	FY2023 revenue	FY2024 revenue	FY2025 revenue	FY2023-FY2025 CAGR	Most recent YoY	Data-package cite
Shopee segment total	US$9.001bn [DP §3, Shopee revenue row]	US$12.415bn [DP §3, Shopee revenue row]	US$16.565bn [DP §3, Shopee revenue row]	35.7% [calculated from DP §3, Shopee revenue row]	48.2% [DP §5, Shopee revenue YoY row]	data_package §3 and §5, specified rows
Shopee service revenue	US$7.8852bn [DP §4, Shopee service row]	US$10.8623bn [DP §4, Shopee service row]	US$14.5459bn [DP §4, Shopee service row]	35.8% [calculated from DP §4, Shopee service row]	Not disclosed on total-service basis [DP §4, current-dollar table]	data_package §4, Shopee service row
Core marketplace revenue	Not separately disclosed [DP §4, product table]	Not separately disclosed [DP §4, product table]	Not separately disclosed [DP §4, product table]	N/A [DP §4, product table]	65.6% in Q2 2026 [DP §4, core marketplace row]	data_package §4, core marketplace row
Value-added services revenue	Not separately disclosed [DP §4, product table]	Not separately disclosed [DP §4, product table]	Not separately disclosed [DP §4, product table]	N/A [DP §4, product table]	-9.0% in Q2 2026 [DP §4, value-added services row]	data_package §4, value-added services row
Sales of goods revenue nature; Shopee plus Other Services	US$1.1212bn [DP §4, sales-of-goods row]	US$1.5586bn [DP §4, sales-of-goods row]	US$2.0254bn [DP §4, sales-of-goods row]	34.4% [calculated from DP §4, sales-of-goods row]	Not disclosed in package [DP §4, sales-of-goods row]	data_package §4, sales-of-goods row; not a Shopee allocation

Arithmetic checks pass. Shopee segment revenue grew from US$9.001 billion to US$12.415 billion, a 37.9% increase, and then to US$16.565 billion, a 33.4% increase; both match data_package §3 within rounding. Shopee service revenue grew 37.8% and 33.9% across the same periods. Consolidated sales of goods grew 39.0% and 29.9%. No historical dollar is back-solved.

The operating drivers add an important denominator check.

Shopee driver	FY2023	FY2024	FY2025	FY2023-FY2025 CAGR	Latest quarter and YoY	Data-package cite
GMV	US$78.5bn [DP §0a, KPI table]	US$100.5bn [DP §0a, KPI table]	US$127.4bn [DP §0a, KPI table]	27.4% [calculated from DP §0a, KPI table]	US$38.3bn; +28.4% [DP §5, GMV rows]	data_package §0a and §5, Shopee GMV rows
Gross orders	8.2bn [DP §0a, KPI table]	10.9bn [DP §0a, KPI table]	13.9bn [DP §0a, KPI table]	30.2% [calculated from DP §0a, KPI table]	4.2bn; +27.5% [DP §5, order rows]	data_package §0a and §5, Shopee gross-orders rows
Operating segment income (loss)	-US$0.550bn [DP §3, Shopee profit row]	-US$0.139bn [DP §3, Shopee profit row]	US$0.581bn [DP §3, Shopee profit row]	Not meaningful across sign change [DP §3, Shopee profit row]	2.87% margin in Q2 [DP §5, Shopee margin row]	data_package §3 and §5, specified rows

Revenue outgrew GMV because monetization rose. Approximate annual segment revenue divided by GMV increased from 11.47% in FY2023 to 12.35% in FY2024 and 13.00% in FY2025. Again, this is a broad revenue-to-GMV ratio, not a commission take rate, because it includes logistics and allocated sales of goods. TTM broad monetization reached 13.82%.

[DATA GAP: Sea's verified package has no additive FY2023-FY2025 dollar history for advertising, transaction fees, or value-added services. Historical product CAGRs below are therefore shown as unavailable where the issuer did not disclose them; no back-solved product history is invented.]

7. Management guidance

Every Shopee forward anchor in data_package §6 is retained:

- **Q3 FY2025, 2025-11-11 — Forrest Li:** “more than 25%” [data_package §6, Shopee guidance row 1]. This was a FY2025 GMV target and is now historical; it was superseded by actual FY2025 performance.
- **Q4 FY2025, 2026-03-03 — Forrest Li:** “grow Shopee's annual GMV by around 25%” [data_package §6, Shopee guidance row 2]. This is the primary FY2026 volume anchor and was paired with adjusted-EBITDA discipline.
- **Q1 FY2026, 2026-05-12 — Forrest Li:** “on track to deliver our 2026 guidance” [data_package §6, Shopee guidance row 3]. Q1 reaffirmed rather than changed the around-25% GMV objective.
- **Q2 FY2026, 2026-08-11 — Forrest Li:** “achieve the milestone of US$1 billion in adjusted EBITDA” [data_package §6, Shopee guidance row 4]. The Q2 call retained around-25% GMV growth despite FX pressure and a harder second-half comparison while adding the profit milestone.

Adjusted EBITDA is not the sealed profit basis, so the US$1 billion milestone is a directional constraint, not a number inserted into the Operating segment income (loss) forecast. It supports continued positive economics and argues against a base case that returns to large losses. At the same time, stock compensation, depreciation, leases, and other classification differences mean it cannot be relabeled operating segment income.

Management also identified advertising and seller tools as future take-rate opportunities, called fulfilment capital-light because centers are generally leased, and reported sequential improvement in fulfilment unit economics [data_package §6, Shopee narrative]. Those statements inform the base margin mechanism. They do not remove the advertising-dollar and logistics-profit data gaps.

8. Forward growth assumptions

All horizon values compound from the TTM ended 2026-06-30 to **2031-06-30**, exactly five annual steps. “Historical CAGR” refers to the finest disclosed line; “N/D” means no product-dollar history exists. The product rates are effective five-year CAGRs generated by the explicit annual paths below.

Base case — 55% probability

Product	Historical CAGR	Latest YoY	Management FY2026 anchor	Base CAGR TTM to TTM+5y	Justification
Transaction and platform services	Core marketplace N/D; Shopee service 35.8%	Core marketplace +65.6%	GMV around +25%	17.33%	GMV decelerates while commission and fee incidence rise modestly; competition prevents current monetization growth from persisting.
Advertising and seller tools	N/D in dollars	Advertising over +70% in Q3 2025	Take-rate opportunity stated	23.71%	Seller adoption, better targeting, and more inventory outgrow GMV, then slow as ad penetration and budgets mature.
Value-added logistics services	N/D in annual dollars	-9.0%	Fulfilment unit economics improving	11.71%	Reported revenue rebounds from mix and netting pressure but grows below orders as Shopee prioritizes efficient delivery rather than gross logistics revenue.
Shopee-allocated sales of goods	Consolidated revenue nature 34.4%; allocation N/D	N/D	No separate guide	9.23%	First-party sales grow below marketplace revenue; model preserves only Shopee's allocation and assumes deliberate mix moderation.

The base annual revenue-growth paths are transaction/platform **30%, 22%, 17%, 12%, 7%**; advertising/seller tools **42%, 30%, 23%, 16%, 10%**; value-added logistics **4%, 10%, 14%, 15%, 16%**; and allocated sales of goods **20%, 12%, 8%, 5%, 2%**. Recomputed from the product mix, total Shopee revenue growth is **28.4%, 21.7%, 17.4%, 12.7%, and 8.2%**. This deliberately

shows the deceleration from Q2's 48.2% segment revenue growth and 65.6% core marketplace growth.

Base GMV growth is **25%, 20%, 15%, 11%, and 8%**, taking TTM GMV from US$144.5 billion to US$298.8 billion, a 15.64% CAGR. Gross-order growth is 24%, 19%, 14%, 10%, and 7%, taking orders to 31.3 billion and allowing average GMV per order to rise modestly from US$9.15 to US$9.55. The broad revenue-to-GMV ratio increases from 13.82% to 14.97%, only 115 basis points over five years. That is a more conservative monetization outcome than extrapolating current marketplace revenue growth.

Bull case — 20% probability

Product	Historical CAGR	Latest YoY	Management FY2026 anchor	Bull CAGR TTM to TTM+5y	Justification
Transaction and platform services	Core marketplace N/D; Shopee service 35.8%	Core marketplace +65.6%	GMV around +25%	23.72%	Shopee sustains share gains, Brazil scales, and fee incidence rises without damaging seller retention.
Advertising and seller tools	N/D in dollars	Advertising over +70% in Q3 2025	Take-rate opportunity stated	31.25%	Commerce-intent data produces strong seller ROI; ads scale faster than GMV throughout the horizon.
Value-added logistics services	N/D in annual dollars	-9.0%	Unit economics improving	17.38%	Order density, fulfilment adoption, and service mix overcome the current reported-revenue decline.
Shopee-allocated sales of goods	Consolidated revenue nature 34.4%; allocation N/D	N/D	No separate guide	14.81%	Direct assortment expands where strategically useful, but still grows below the fee and ad engines.

Bull annual paths are transaction/platform **37%, 29%, 23%, 18%, 13%**; advertising **50%, 40%, 30%, 23%, 16%**; logistics **5%, 15%, 20%, 23%, 25%**; and allocated goods **26%, 18%, 14%, 10%, 7%**. Recomputed total revenue growth decelerates from **34.8% to 14.4%** by year five, with intervening growth of **29.3%, 23.8%, and 19.1%**. Bull GMV growth is **29%, 25%, 21%, 17%, and 13%**, yielding US$372.7 billion at the horizon and a 20.87% CAGR. Orders reach 39.1 billion; broad monetization rises to 15.75%.

This is not a no-competition fantasy. TikTok Shop remains large and Mercado Libre remains strong in Brazil. The bull mechanism is that market growth, superior execution, and advertising ROI allow Shopee to grow faster while logistics density finances service quality. If growth instead requires open-ended subsidy, the bull margin cannot be earned.

Bear case — 25% probability

Product	Historical CAGR	Latest YoY	Management FY2026 anchor	Bear CAGR TTM to TTM+5y	Justification
Transaction and platform services	Core marketplace N/D; Shopee service 35.8%	Core marketplace +65.6%	GMV around +25%	9.88%	TikTok and Mercado Libre force slower fee growth; current monetization acceleration fades quickly after FY2026.
Advertising and seller tools	N/D in dollars	Advertising over +70% in Q3 2025	Take-rate opportunity stated	11.72%	Seller budgets still shift online, but weak ROI and competitive traffic cap ad load and pricing.
Value-added logistics services	N/D in annual dollars	-9.0%	Unit economics improving	2.81%	Revenue falls first, then recovers slowly as price competition and net accounting offset parcel growth.
Shopee-allocated sales of goods	Consolidated revenue nature 34.4%; allocation N/D	N/D	No separate guide	3.13%	First-party growth is curtailed to protect cash and avoid low-return inventory expansion.

Bear annual paths are transaction/platform **19%, 12%, 9%, 6%, 4%**; advertising **25%, 16%, 11%, 6%, 2%**; logistics **-8%, 1%, 6%, 8%, 8%**; and allocated goods **10%, 4%, 2%, 0%, 0%**. Recomputed total growth decelerates from **16.0% to 3.4%**, with intervening growth of **11.0%, 8.5%, and 5.6%**. Bear GMV growth is **18%, 11%, 7%, 4%, and 2%**, yielding US$214.8 billion and an 8.25% CAGR. Orders reach 22.9 billion and broad monetization rises only to 14.20%.

The bear case still grows because the regional market, digital penetration, and Shopee's installed network are not assumed to vanish. Its economic damage comes through lower growth plus a persistent requirement to spend on delivery, creator traffic,

trust, and merchant retention. A more severe regulatory break or fraud event is a downside outside this operating bear and belongs in red-team stress testing.

9. Forward Operating segment income (loss) margin assumptions

The exact metric in every row is **Operating segment income (loss)**. Product margins are analyst attributions because Sea does not disclose product P&Ls. The TTM attributed margins tie to the sealed segment total within US$0.1 million after rounding.

Product	TTM revenue	TTM attributed margin	Bear TTM+5y margin	Base TTM+5y margin	Bull TTM+5y margin	Mechanism
Transaction and platform services	US$10.647bn	5.10%	7.0%	10.0%	15.0%	Fee incidence and fixed-cost absorption improve, but the model retains recurring buyer, seller, trust, and content reinvestment.
Advertising and seller tools	US$4.563bn	20.0%	18.0%	25.0%	32.0%	Seller adoption and targeting improve monetization; terminal margins are capped because ad dollars and seller ROI are not disclosed.
Value-added logistics services	US$2.418bn	-15.0%	-18.0%	-8.0%	0.0%	Density, routing, automation, and lower subsidy per parcel help, while leased capacity and delivery competition absorb much of the benefit.
Shopee-allocated sales of goods	US$2.344bn	-24.0%	-25.0%	-15.0%	-5.0%	Sourcing and inventory turns improve, but direct retail keeps markdown, returns, working-capital, and obsolescence drag in every case.

The **bear** terminal margin is **4.72%**, 206 basis points above TTM. Transaction/platform margin rises only to 7%, advertising slips to 18%, logistics worsens to negative 18%, and direct sales remains deeply loss-making at negative 25%. The limited aggregate improvement comes from product mix and modest fee absorption, not a blanket scale assumption. It still proves too optimistic if monetization causes seller churn or if delivery competition forces structurally higher subsidy per order.

The **base** terminal margin is **10.70%**, 804 basis points above TTM. Advertising still rises from 22.8% to 29.5% of modeled revenue, but its attributed margin is limited to 25%, not 30%, because Sea discloses neither ad dollars nor seller return on ad spend. Transaction/platform services reach 10%, requiring fee incidence and fixed-cost absorption while continuing to fund buyer, seller, trust, safety, and content costs. Logistics improves from negative 15% to negative 8% through order density, leased-centre utilization, routing, automation, and reduced subsidy per parcel. Sales of goods improves to negative 15% through mix discipline and inventory turns. The prior 15.61% segment margin required too many unverified product-margin gains and also materially exceeded the cited scaled marketplace comparator's 6.7% operating margin, although that consolidated comparator is not perimeter-identical to Shopee. It is not retained as the base case.

The **bull** terminal margin is **17.18%**, 1,452 basis points above TTM, and remains deliberately demanding. Advertising reaches a 32% attributed margin, transaction/platform services reach 15%, logistics reaches break-even, and allocated sales of goods remains loss-making at negative 5%. This requires advertising to compound 31.25% while seller ROI remains healthy, broad revenue monetization to rise from 13.82% to 15.75% without damaging order growth, and parcel density savings to offset the delivery-service arms race. The prior 22.57% assumed a 38% ad margin, 20% transaction margin, positive 6% logistics margin, and goods break-even simultaneously; disclosed evidence does not support that combination. Even the revised bull fails if competitive spending rises roughly in line with monetization.

Management's US$1 billion FY2026 adjusted-EBITDA milestone is consistent with early progress but is not used as operating segment income. The distinction matters because the margin path is built on the sealed statutory segment basis. No unallocated expense, interest income, tax, or Monee synergy profit is inserted here.

10. Segment rollup

TTM analytical base

Product	Analytical TTM revenue allocation	Share of Shopee revenue	Analytical attributed Operating segment income (loss)	Analytical attributed margin	Basis
Transaction and platform services	US$10.647bn	53.31%	US$0.543bn	5.10%	Analyst allocation of core marketplace revenue; not issuer disclosed
Advertising and seller tools	US$4.563bn	22.85%	US$0.913bn	20.0%	Analyst allocation; no issuer dollar series or product P&L
Value-added logistics services	US$2.418bn	12.11%	-US$0.363bn	-15.0%	Q2 mix calibrated to TTM; product profit not issuer disclosed
Shopee-allocated sales of goods	US$2.344bn	11.74%	-US$0.563bn	-24.0%	Shopee allocation only; product profit not issuer disclosed
Shopee total	**US$19.972bn**	**100.00%**	**US$0.530387bn**	**2.66%**	Sealed segment total; analytical attribution ties within rounding

Exactly five years to 2031-06-30

Case and product	TTM base revenue	Five-year factor	TTM+5y revenue	TTM+5y Operating segment income (loss) margin	TTM+5y Operating segment income (loss)
Bear — transaction/platform	US$10.647bn	1.6015x	US$17.051bn	7.0%	US$1.194bn
Bear — advertising/seller tools	US$4.563bn	1.7402x	US$7.940bn	18.0%	US$1.429bn
Bear — value-added logistics	US$2.418bn	1.1488x	US$2.778bn	-18.0%	-US$0.500bn
Bear — allocated sales of goods	US$2.344bn	1.1669x	US$2.735bn	-25.0%	-US$0.684bn
Bear — Shopee total	**US$19.972bn**	**1.5274x**	**US$30.505bn**	**4.72%**	**US$1.439bn**
Base — transaction/platform	US$10.647bn	2.2238x	US$23.677bn	10.0%	US$2.368bn
Base — advertising/seller tools	US$4.563bn	2.8973x	US$13.220bn	25.0%	US$3.305bn
Base — value-added logistics	US$2.418bn	1.7397x	US$4.207bn	-8.0%	-US$0.337bn
Base — allocated sales of goods	US$2.344bn	1.5546x	US$3.644bn	-15.0%	-US$0.547bn
Base — Shopee total	**US$19.972bn**	**2.2405x**	**US$44.747bn**	**10.70%**	**US$4.790bn**
Bull — transaction/platform	US$10.647bn	2.8985x	US$30.861bn	15.0%	US$4.629bn
Bull — advertising/seller tools	US$4.563bn	3.8952x	US$17.774bn	32.0%	US$5.688bn
Bull — value-added logistics	US$2.418bn	2.2278x	US$5.387bn	0.0%	US$0.000bn
Bull — allocated sales of goods	US$2.344bn	1.9950x	US$4.676bn	-5.0%	-US$0.234bn
Bull — Shopee total	**US$19.972bn**	**2.9380x**	**US$58.697bn**	**17.18%**	**US$10.083bn**

All product revenues sum exactly to the displayed case totals before rounding. All product profits are revenue multiplied by the displayed terminal product margin, and each case's segment margin is the revenue-weighted result. Reconciliation residual is below 0.01%, comfortably within the 1% requirement.

The probabilities are deliberately nonuniform: **25% bear, 55% base, 20% bull**. Base receives the highest weight because current GMV, orders, monetization, and positive segment profit support continued compounding, while competitive intensity and the short positive-margin history keep the bull below the bear. The weights sum to 100%; the bull remains below the bear because its simultaneous revenue, monetization, advertising-margin, and logistics break-even conditions are less evidenced than the competitive downside. Recomputed probability-weighted terminal Shopee revenue is **US$43.977 billion** and probability-weighted terminal Operating segment income (loss) is **US$5.011 billion**, equivalent to an 11.39% ratio of weighted profit to weighted revenue. Those weighted figures are diagnostics, not a separate scenario and not an authorization to value or trade the security.

11. Key risks and wildcards

- **TikTok Shop closes the traffic gap — bear.** Content-led discovery can redirect buyer attention and seller ad budgets. Shopee may defend share with vouchers, affiliates, free shipping, and ad pricing, lowering retained margin even if GMV holds.
- **Brazil competition with Mercado Libre — bear/base.** Mercado Libre's scale, logistics, ads, and fintech make Brazil structurally harder than a greenfield market. Faster Shopee growth may require prolonged reinvestment.
- **Advertising quality compounds — bull.** Better recommendations, measurement, and conversion can raise seller return on ad spend. This is the most powerful mix lever because its incremental margin should exceed fulfilment and direct retail.
- **Seller monetization overshoots — bear.** Commission, service, campaign, and ad charges are assessed on all-in merchant economics. Excessive monetization can cause higher prices, weaker selection, seller churn, or migration to competitors.
- **Logistics density versus service arms race — all cases.** Density, routing, and automation improve cost per parcel, but faster delivery promises, remote-area coverage, fuel, wages, and returns can absorb the gain. Leased facilities reduce owned capex but do not erase fixed commitments.
- **Revenue accounting mix — all cases.** Value-added-services revenue can decline while parcels rise, and sales of goods can inflate revenue without comparable profit. GMV, service monetization, and product margins must be monitored separately.
- **Regulatory and cross-border friction — bear.** Product standards, customs, tax, platform liability, data rules, and foreign-seller restrictions can raise cost or disrupt assortment. UNCTAD's 2026 Indonesia review highlights both rapid e-commerce growth and remaining regulatory and capability gaps ([UNCTAD Indonesia eTrade Readiness Assessment](https://unctad.org/system/files/official-document/dtlecde2026d1_en.pdf)).
- **Fraud, counterfeit, trust, and safety — bear.** A serious breakdown can raise refunds, moderation expense, regulatory scrutiny, and buyer churn simultaneously. Trust investment is a recurring cost of the moat.
- **AI improves conversion but lowers differentiation — bull/bear.** Proprietary commerce data can make AI search, recommendations, and seller tools more valuable, but generic models are widely available. The durable asset is the transaction-feedback loop, not model access alone.
- **Currency translation and local affordability — all cases.** Shopee operates across multiple currencies while this model reports USD. FX can make reported growth differ from underlying order and local-currency monetization trends.
- **Monee interdependence — wildcard.** Integrated payments and credit can improve Shopee conversion, but Monee carries its own funding and credit risks. This appendix gives Shopee no lending profit and no hidden subsidy; synthesis must preserve segment boundaries.
- **Direct-sales discipline — bear/base.** First-party inventory can help assortment but introduces markdown, obsolescence, and working-capital risk. Growing the line for headline revenue would reduce business quality.

Shopee five-year summary

Case	Segment TTM+5y Revenue	Exact profit metric	Segment TTM+5y Profit Margin	Segment TTM+5y Profit	Probability
Bear	US$30.505bn	Operating segment income (loss)	4.72%	US$1.439bn	25%
Base	US$44.747bn	Operating segment income (loss)	10.70%	US$4.790bn	55%
Bull	US$58.697bn	Operating segment income (loss)	17.18%	US$10.083bn	20%

The base case remains demanding: it requires exactly five years of 17.51% revenue compounding and an 804-basis-point margin expansion on the sealed segment-profit basis. The evidence supports continued GMV growth, higher monetization, and improving fulfilment economics; it does not yet prove even the revised 10.70% durable segment margin. The decisive monitoring variables are GMV growth versus the market, broad monetization excluding allocated goods, advertising growth and seller ROI, fulfilment unit economics, and the gap between adjusted EBITDA and Operating segment income (loss).

Appendix B2 - Monee

Monee — Segment Deep Dive

Production ER2 run: `pulse-cio-20260825T060138+0800` **Information cutoff:** 2026-08-25 SGT **Forecast anchor:** TTM ended 2026-06-30, comprising Q3 2025, Q4 2025, Q1 2026, and Q2 2026 **Exact horizon:** 2031-06-30, exactly five calendar years after the TTM end **Currency:** US dollars; financial tables use US$ billions unless stated otherwise **Exact sealed profit basis:** `Operating segment income (loss)` **Authority boundary:** Research evidence only. No trade, portfolio, ranking, sizing, message, or execution authority. `trade_execution_authorized=false`.

0. Segment boundary and taxonomy note

Monee is Sea Limited's digital financial services segment, formerly branded SeaMoney. Sea announced the Monee name in May 2025, and the Q4 2025 and 2026 releases use the new label; the economic line is continuous with the earlier digital financial services presentation, while the FY2025 Form 20-F supplies current-label comparative figures. This is a branding and presentation boundary, not an economic restatement that licenses mixing incompatible data. The projection perimeter is the QFR-sealed reportable segment: consumer and SME credit, digital payments and wallet services, digital banking, insurtech, and wealth services. The profit basis is the issuer's `Operating segment income (loss)`, not adjusted EBITDA, net income, lending contribution, or a bank ROA. Corporate unallocated expenses and below-line funding or investment items outside the segment bridge are not allocated here.

The more important comparability break is in lending KPIs. FY2021 and FY2022 disclosed loans receivable net of allowance; FY2023 disclosed 90-day NPL on on-book loans; FY2024 onward disclosed total on-book plus off-book consumer and SME principal. Those figures are not one seamless loan-book series. This appendix therefore anchors balance-sheet scenarios only to the Q2 2026 principal of US$11.1 billion and never presents FY2021-FY2025 principal growth as comparable. It also keeps loan-book growth separate from revenue growth.

1. What Monee actually is

Monee is an embedded-finance platform built around Sea's commerce ecosystem and extended beyond it. Its most visible consumer products are wallet and payment acceptance, Shopee checkout financing or SPayLater, off-Shopee SPayLater, and personal loans. For merchants and small businesses, it can use transaction, order, fulfillment, and repayment data to underwrite working-capital or other SME credit. Digital banks and regulated finance entities provide account, deposit, payment, and on-book lending capacity in supported countries. Insurance and wealth products broaden the app's financial relationship but are not separately quantified in Sea's public product P&L.

The two core customer-acquisition loops differ. On-platform credit is offered at or near a Shopee transaction, where intent, basket, merchant, payment, and fulfillment data are observable. The loan can raise checkout conversion or basket size while producing financing economics. Off-platform consumer credit seeks to reuse the underwriting and servicing stack for purchases and cash needs outside Shopee. That widens the addressable market but weakens the closed-loop advantage because Monee sees less of the transaction and competes more directly with banks, wallets, specialist BNPL providers, and superapps. SME lending can be attractive because marketplace cash flows create a dense operating-data trail, but balances are longer-duration and losses can correlate with Shopee merchant stress.

Revenue is primarily attributed by Sea to consumer and SME credit, with smaller payment, banking, insurtech, and wealth activities. Credit monetization can include interest, service and origination economics, and revenue associated with loans originated for partner funding, subject to local accounting. Payments monetization can include merchant or transaction economics, interchange, wallet float, and cross-sell. Because Sea does not publish a Monee product revenue split, the four-line forward model in Sections 8-10 is explicitly an analyst allocation that reconciles to the sealed TTM segment total; it is not presented as issuer disclosure.

Go-to-market is therefore both advantaged and potentially reflexive. Shopee supplies a large pool of buyers and merchants at low incremental distribution cost. More repayment data can improve underwriting, which can expand approvals and produce more data. But credit can also subsidize commerce demand, and rapid credit expansion can temporarily flatter revenue and transaction activity before provisions season. The durable question is not whether the US$11.1 billion loan measure can grow; it is whether risk-adjusted monetization after funding, expected loss, fraud, servicing, and customer acquisition remains attractive as the portfolio moves away from the cleanest Shopee cohorts.

2. Current economics

Monee generated US$4.767 billion of TTM revenue and US$1.0456 billion of `Operating segment income (loss)`, a 21.93% margin, based on the sealed sum of Q3 2025 through Q2 2026. FY2025 revenue was US$3.792 billion and exact-basis profit was US$0.973 billion, a 25.7% margin. Latest-quarter revenue was US$1.403 billion, up 58.9% year over year, while the exact-basis quarterly margin was 19.89%. The last four quarterly margins moved from 25.07% to 22.33%, 21.39%, and 19.89%. This is unusually clear evidence that volume and revenue acceleration did not translate one-for-one into incremental margin. The FY2025 values come from the [FY2025 Form 20-F](https://www.sec.gov/Archives/edgar/data/1703399/000114036126015366/ef20067274_20f.htm); the current quarter comes from [Q2 2026 Exhibit 99.1](https://www.sec.gov/Archives/edgar/data/1703399/000119312526344596/d120948dex991.htm); and the TTM sum follows the QFR-sealed `official_ttm_reconciliation` in statutory_bridge.json and data_package §§3a and 5.

At Q2 2026, total on-book plus off-book consumer and SME loans principal was US$11.1 billion, up 62.5% year over year, while the 90-day NPL ratio was 1.0%; [Q2 2026 Exhibit 99.1](https://www.sec.gov/Archives/edgar/data/1703399/000119312526344596/d120948dex991.htm) is the controlling source. The ratio was 1.1% in each of the previous three quarters, per the four official releases enumerated in data_package §5. The low reported ratio is encouraging but not a complete loss measure. A fast-growing portfolio mechanically contains a large share of young balances that have not had time to migrate into 90-plus-day delinquency. NPL is also a stock measured after write-offs, while provision and charge-off expense are flows. Off-book loans can transfer funding exposure without necessarily transferring underwriting, servicing, first-loss, or reputational exposure. The data package does not disclose vintage curves, APR, duration, country split, roll rates, on-book share, or cohort profitability.

Monee is balance-sheet heavier than Sea's gaming or marketplace software activities. Loans require either Sea-controlled funding and regulatory capital or third-party capital willing to fund originated assets. Digital banks can provide lower-cost deposits, but deposits bring liquidity, capital, conduct, and asset-liability management obligations. Restricted cash and the group's securities should not automatically be treated as freely deployable lending capacity. Product-level capital consumption and regulatory capital are not disclosed in the data package.

The model uses an explicit TTM allocation solely to make the forward economics reconstructable: US$3.900 billion, or about 82%, is assigned to consumer and SME credit and US$0.867 billion, or about 18%, to payments, wallet, banking, insurance, and wealth. Within credit, US$1.450 billion is assigned to on-platform consumer credit, US$1.780 billion to off-platform consumer credit, and US$0.670 billion to SME credit. These figures are not issuer disclosures; the apparent precision is only the arithmetic needed to sum to the issuer-disclosed US$4.767 billion segment total. The US$11.1 billion Q2 2026 principal is separately allocated at US$4.0 billion, US$5.3 billion, and US$1.8 billion to the three credit lines. Sea does not disclose the product split, current originations, annualized turnover, APR, duration, country mix, or on-book share, so none of those modeled allocations is evidence of product economics and none is used to rewrite history.

3. Unit economics

Credit economics

A useful credit-profit bridge is: average earning balance multiplied by gross asset yield, plus fee or origination revenue, less funding cost, expected credit loss, transaction and servicing cost, fraud, collections, customer acquisition, and allocated product technology. The headline loan balance is only one factor. Revenue may grow slower than principal if more borrowers are prime, if off-book funding partners retain more economics, if regulated price caps fall, or if average duration lengthens. Revenue can grow faster than principal if wallet engagement raises fee income or if on-platform short-tenor balances turn several times per year. Neither relationship should be assumed constant.

On-platform consumer credit should have the best acquisition and underwriting economics because the transaction occurs inside Shopee. The relevant data can include purchase frequency, merchant quality, basket size, fulfillment outcome, returns, payment behavior, device integrity, and wallet activity. Short tenor produces high annual originations relative to ending principal. The main risk is that financing becomes a conversion subsidy: relaxed approval or promotional pricing may make Shopee GMV look better while lowering Monee's risk-adjusted margin.

Off-platform consumer credit has the largest plausible runway but a weaker proprietary-data perimeter. Monee can carry prior repayment and wallet signals into the decision, yet competitors may see similar bureau and device data. Customer acquisition can be more expensive, fraud more difficult, and collections less connected to a live Shopee seller or buyer relationship. Management has said newer countries, Brazil, and more-prime users can have lower ROA or higher provisions while still

being profitable. That statement supports balance growth but explicitly warns against extrapolating the current revenue-to-balance ratio.

SME credit may combine marketplace-data advantage with larger tickets. Revenue can be attractive if loans turn against merchant inventory and sales cycles. However, concentration, correlated marketplace shocks, informal accounting, and longer workouts can make 90-day NPL an incomplete early signal. The model therefore gives SME a lower balance turnover than checkout credit and includes separate loss-cost stress.

Funding and credit-quality mechanics

The current on-book share is not disclosed. The horizon scenarios therefore use broad diagnostic values of 80% in bear, 70% in base, and 60% in bull rather than treating a narrow estimate as known. In the bear case, third-party funders become more selective, forcing Monee or affiliated banks to retain more loans just as funding costs and losses rise. In base, deposits, balance-sheet liquidity, and partner funding expand together. In bull, strong cohort evidence attracts more off-book capital, lowering consolidated funding intensity even while Monee retains sufficient economics. A lower on-book share is not automatically better if partners keep most of the yield; the revenue assumptions separately reflect that trade-off.

The starting 1.0% 90-day NPL ratio is not mapped directly into a provision rate. Horizon 90-day NPL is 3.8% in bear, 2.0% in base, and 1.2% in bull. The modeled gross credit-loss or charge-off cost on average credit balances is 8.0%, 5.0%, and 3.8%, respectively; provision expense is 8.5%, 5.5%, and 4.0%. The gap between provision and realized loss represents growth, mix, forward-looking reserves, and timing. Credit loss and provision are alternative stock-flow diagnostics in this appendix, not two costs added together. These rates are analyst sensitivities, not issuer guidance, and the absence of vintage curves prevents a claim that the current 1.0% NPL has normalized.

Nubank illustrates why the stock and flow measures must remain separate. In Q2 2026 it reported 15-90-day NPL of 4.8%, 90-plus-day NPL of 6.9%, cost of credit of US$1.7 billion, and a 12.4% risk-adjusted NIM while its total credit portfolio grew 37% to US$39.4 billion. Its exact geography and product mix differ from Monee, so its NPL level is not a direct benchmark; the useful lesson is that fast growth can coexist with high gross yields and large credit costs, and risk-adjusted margin is the economic measure to protect. [Nu Q2 2026 results](https://international.nubank.com.br/company/nu-holdings-ltd-reports-second-quarter-2026-financial-results/).

Payments, wallet, banking, insurance, and wealth

The non-credit line is modeled as one group because Sea does not disclose its component revenue. Payments can deepen daily engagement, reduce external payment expense, and feed underwriting data. Banking can supply deposits and primary-account behavior. Insurance and wealth can add fee income without the same principal risk, but distribution commissions can be thin and products easy to compare. The moat comes mainly from embedded distribution and data rather than unique product manufacturing.

Payments scale does not guarantee margin. Incentives, merchant pricing, fraud, chargebacks, compliance, interchange regulation, and instant-payment rails can compress net monetization. Banking deposits can lower funding cost, but an aggressive deposit rate can simply move expense from wholesale funding into customer acquisition. Insurance and wealth can raise revenue per user but require suitability, licensing, and operational controls. For those reasons the horizon exact-basis margin for this line is only 8% in bear, 18% in base, and 24% in bull, despite strong operating leverage in a successful outcome.

4. Competitive dynamics

Monee faces three overlapping competitor sets. The first is ecosystem finance from Grab, GoTo and other commerce or mobility platforms. The second is digital banks and fintech lenders, including Nubank in Brazil, Sea's own country-level banking peers, Akulaku, Kredivo, and Atome. The third is incumbent banks, payment networks, and national instant-payment systems. Competition can occur on approval rate, credit limit, price, merchant acceptance, repayment flexibility, wallet incentives, deposit rates, or breadth of products.

GoTo demonstrates that ecosystem competitors are also scaling quickly. In Q1 2026 its fintech loan book reached Rp9.893 trillion, up 59%, while fintech net revenue grew 58% and adjusted EBITDA reached Rp364 billion. Its disclosure explicitly includes on- and off-balance-sheet consumer and merchant loans, a perimeter concept similar to Sea's headline principal measure. GoTo also reported 27.5 million monthly transacting fintech users and more than two billion quarterly transactions. [GoTo Q1 2026 results](https://www.gotocompany.com/news/press/goto-laporkan-kinerja-kuartal-pertama-2026-cetak-laba-bersih-untuk-pertama-kali). This is evidence that Shopee data is useful but not exclusive: rival ecosystems also possess dense

payment, merchant, mobility, and repayment signals.

Grab's Q2 2026 financial-services revenue grew 59% to US$134 million and its gross loan portfolio grew 197% to US$2.318 billion, including Superbank; excluding Superbank, the portfolio doubled. Quarterly disbursements were US$1.2 billion and deposits across GXS, GXBank, and Superbank were US$2.5 billion. Yet the segment still recorded a US$15 million adjusted EBITDA loss. [Grab Q2 2026 SEC exhibit](https://www.sec.gov/Archives/edgar/data/1855612/000185561226000123/a2026q2-earningspressrelea.htm). The comparison is highly relevant: loan scale and revenue growth can coexist with losses when provisions, funding, and platform build-out absorb gross economics.

Brazil is even more demanding because Nubank already has 139 million customers across Latin America and a US$39.4 billion credit portfolio, backed by US$45.3 billion of deposits as of Q2 2026. Its 33% ROE and 19.5% efficiency ratio show the scale economics available to a strong digital bank, but its 6.9% 90-plus NPL and material cost of credit show the price of unsecured growth. Monee's Brazil expansion competes against an institution that is both deeply scaled and increasingly broad in banking relationships.

Regulation can reduce fringe behavior and improve trust, but it also raises the minimum operating burden. Indonesia's 2026 BNPL implementation rules cover prudential standards, consumer protection, personal and financial data, eligibility analysis, credit scoring, disclosure, collections, and economic benefits. [OJK PADK 2/2026](https://ojk.go.id/id/regulasi/Pages/PADK-2-Tahun-2026-Penyelenggaraan-BNPL-Bagi-Perusahaan-Pembiayaan-dan-Perusahaan-Pembiayaan-Syariah.aspx). OJK reported January 2026 bank BNPL balances of Rp27.1 trillion, up 20.15%, and finance-company BNPL receivables of Rp12.18 trillion, up 71.13%, with 2.77% gross NPF. It also reported online-lending TWP90 of 4.38%. [OJK February 2026 sector update](https://ojk.go.id/id/berita-dan-kegiatan/siaran-pers/Pages/RDKB-Feb-2026.aspx). Perimeters differ, so these are context rather than like-for-like Monee comparisons.

Pricing power is therefore conditional. Monee has more pricing discretion when the credit offer is instantaneous, embedded in checkout, and based on information that a bank cannot easily observe. It has less power in prime personal loans, generic wallet payments, and deposits, where products are comparable and users can multi-home. National instant-payment rails can commoditize transfer economics even as they expand digital transaction volume. Over five years, value should migrate toward trusted underwriting, funding, fraud control, and low-cost distribution rather than the wallet front end alone.

5. Segment moat

Monee has a real but unproven moat. Its strongest asset is the closed-loop data and distribution relationship with Shopee. A buyer or seller already transacting on the marketplace can be offered a financial product without a separate branch network or broad paid-acquisition campaign. Transaction and fulfillment data may improve fraud detection and underwriting, while repayment outcomes feed the next decision. The ecosystem also offers natural collection touchpoints and repeated use.

The second potential advantage is learning scale. A large, multi-country credit book can support more granular models by product, country, and segment. Management's stated guardrail of stable NPL at those lower levels is the correct architecture. If Monee can expand approvals while holding vintage-adjusted loss and fraud stable, its data flywheel would be difficult for a new entrant to reproduce quickly.

The moat weakens as Monee moves off-platform. Bureau data, bank-account data, device data, and generic machine-learning tools are increasingly available to competitors. A model is not proprietary merely because it uses AI. GoTo, Grab, Nubank, and banks all invest in data-driven underwriting. Regulatory credit reporting can reduce information asymmetry for the entire market. Off-platform users can compare prices and maintain several credit apps.

Funding is another test. A durable lender needs stable, appropriately priced funding through a cycle. Partner capital is useful but can disappear or reprice when early delinquencies rise. Deposits are stickier but require credible banking franchises, liquidity management, and regulatory capital. Sea's group liquidity helps, but the segment should not be credited with a permanent funding moat until disclosure demonstrates deposit costs, loan-to-deposit ratios, and on-book versus off-book economics.

The five-to-ten-year moat verdict is **moderate and conditional**, not wide. It can strengthen if Sea discloses stable vintage loss curves through a downturn, repeat usage outside Shopee without promotional dependence, partner-funding durability, and cross-sell that lowers acquisition cost. It can erode if off-platform growth requires generic price competition, if regulation caps monetization, or if fraud and provisions rise faster than balances. The current 1.0% 90-day NPL is supportive but too young and too aggregated to settle the durability question.

6. Historical growth rates reproduced from the data package

The segment total is the finest historical dollar breakdown available. Sea does not disclose credit, payments, banking, insurance, wallet, or country revenue separately. The product rows below therefore state the non-disclosure rather than back-solving a fictional product history.

Product or sub-segment	FY2022 revenue	FY2023 revenue	FY2024 revenue	FY2025 revenue	Three-year CAGR	Most recent YoY	Primary-source cite
Monee total	US$1.222bn	US$1.759bn	US$2.368bn	US$3.792bn	45.9%	58.9%	[FY2022 Form 20-F](https://www.sec.gov/Archives/edgar/data/1703399/000114036123017021/brhc10050860_20f.htm); [FY2023 Form 20-F](https://www.sec.gov/Archives/edgar/data/1703399/000114036124022429/ef20015280_20f.htm); [FY2024 Form 20-F](https://www.sec.gov/Archives/edgar/data/1703399/000119312525084311/d940352d20f.htm); [FY2025 Form 20-F](https://www.sec.gov/Archives/edgar/data/1703399/000114036126015366/ef20067274_20f.htm); [Q2 2026 Exhibit 99.1](https://www.sec.gov/Archives/edgar/data/1703399/000119312526344596/d120948dex991.htm)
Consumer and SME credit	Not separately disclosed	Not separately disclosed	Not separately disclosed	Not separately disclosed	Not calculable [DATA GAP]	Not separately disclosed	data_package §4 official-disclosure inventory
Payments, wallet, banking, insurance, and wealth	Not separately disclosed	Not separately disclosed	Not separately disclosed	Not separately disclosed	Not calculable [DATA GAP]	Not separately disclosed	data_package §4 official-disclosure inventory

Arithmetic checks pass within 2%: US$1.222 billion multiplied by 1.440 equals US$1.760 billion versus US$1.759 billion reported; US$1.759 billion multiplied by 1.346 equals US$2.368 billion; and US$2.368 billion multiplied by 1.601 equals US$3.791 billion versus US$3.792 billion reported. The three-year CAGR is `(3.792 / 1.222)^(1/3) - 1 = 45.9%`. These rows tie to data_package §3 and §5 and to the named filings above. No product dollar was back-solved.

The credit KPI history is intentionally not inserted into the revenue table. FY2021 and FY2022 are net loans receivable, FY2023 changes the NPL perimeter, and FY2024 onward uses total on-book plus off-book principal. The only forecast-safe starting balance is Q2 2026 US$11.1 billion from data_package §5.

7. Management guidance from data_package Section 6

Data-package row	Date and speaker	Verbatim evidence	Interpretation
§6 Monee row 1	2025-11-11, Forrest Li	“strong off-Shopee growth for many years to come”	Off-platform credit is a strategic growth vector, but this is directional and supplies no revenue, loss, or margin target.
§6 Monee row 2	2026-03-03, Forrest Li	“significant long-term profit contributor”	Management expects a larger earnings pool; the statement does not define the profit basis or timing.
§6 Monee row 3	2026-05-12, Forrest Li	“significant long-term profit contributor for Sea”	Confidence continued alongside a reported 1.1% 90-day NPL, but no quantified FY2026 guide was given.
§6 Monee row 4	2026-08-11, Forrest Li	“great confidence in Monee's long-term growth and earnings potential”	Management cites low ecosystem credit penetration; the model must still price funding and seasoning.

The same verified Q2 transcript summary says mix is moving toward off-Shopee SPayLater, Brazil, newer countries, and more-prime users. Some cohorts may have lower ROA or higher provisions while remaining profitable and increasing

balances. Management's guardrail is stable NPL by product, country, and segment, not a fixed consolidated ROA. This is the most decision-useful guidance because it directly explains why the margin can fall despite strong revenue and loan growth.

[DATA GAP: Sea provides no quantified Monee FY2026 revenue, loan-balance, provision, funding-cost, or `Operating segment income (loss)` margin guidance in data_package §6. It also provides no country or cohort table.]

8. Forward growth assumptions

Analyst TTM allocation and modeling bridge

The product split is a transparent allocation, not historical disclosure. It exists so the segment total can be reconstructed and so credit balance, turnover, and monetization can be stressed independently.

Product	TTM revenue allocation	Q2 2026 principal allocation	Current originations disclosure	Allocation status
On-platform consumer credit	US$1.450bn	US$4.000bn	Not disclosed	Analyst estimate
Off-platform consumer credit	US$1.780bn	US$5.300bn	Not disclosed	Analyst estimate
SME credit	US$0.670bn	US$1.800bn	Not disclosed	Analyst estimate
Payments, wallet, banking, insurance, and wealth	US$0.867bn	Not applicable	Not applicable	Analyst estimate
Monee total	US$4.767bn	US$11.100bn	Not disclosed	Revenue and principal totals issuer disclosed; split estimated

[DATA GAP: Sea does not disclose credit versus non-credit revenue, sub-product principal, current originations, APR, duration, country or vintage tables, or on-book share. Every allocation and turnover value in Sections 8-10 is therefore an analytical scenario sensitivity, not an observed operating fact.]

The model no longer asserts a starting origination run rate. Horizon originations shown below are turnover sensitivities applied to modeled ending principal, not a growth series from a disclosed base. This avoids silently treating principal, which is a stock, as originations, which are a flow.

Base case: controlled expansion with mix dilution

Product	Three-year historical CAGR	Latest YoY	Management FY+1 guide	Base CAGR TTM to TTM+5y	Justification
On-platform consumer credit	Not disclosed; Monee total 45.9%	Not disclosed; total 58.9%	No quantified guide	14%	Shopee distribution supports penetration, but mature checkout use decelerates.
Off-platform consumer credit	Not disclosed; Monee total 45.9%	Not disclosed; total 58.9%	Strong growth for many years	17%	Brazil and newer-country expansion outgrow on-platform credit, while more-prime and partner-funded mix lowers retained monetization.
SME credit	Not disclosed; Monee total 45.9%	Not disclosed; total 58.9%	No quantified guide	15%	Merchant data supports growth, tempered by ticket size, concentration, and cyclical losses.
Payments, wallet, banking, insurance, and wealth	Not disclosed; Monee total 45.9%	Not disclosed; total 58.9%	Long-term earnings potential	13%	Engagement and cross-sell grow, while instant-payment rails and absent product disclosure restrain the forecast.

The audited base path decelerates total revenue from the latest-quarter 58.9% YoY growth rate to a 15.1% five-year CAGR. The annual total cadence is US$4.767 billion, US$5.486 billion, US$6.314 billion, US$7.269 billion, US$8.370 billion, and US$9.639 billion at the horizon. The prior US$11.401 billion base required a 19.1% five-year CAGR despite no disclosed product revenue, country balance, APR, duration, origination, or vintage series; that was too precise and too close to treating the current growth burst as durable. On-platform growth now slows first as penetration rises, while off-platform and SME remain above it because newer geographies are the stated expansion vector. GoTo's and Grab's rapid fintech growth show that near-term opportunity exists, but also that multiple capitalized ecosystems are chasing it; their scale does not validate Sea-specific risk-adjusted monetization.

The audited base loan book grows from US$11.1 billion to US$22.795 billion, a 15.5% CAGR, with illustrative on-platform, off-platform, and SME balances of US$7.049 billion, US$12.125 billion, and US$3.620 billion. Horizon annual originations are a scenario diagnostic of US$29.6 billion, US$34.0 billion, and US$7.2 billion, or US$70.8 billion total, at 4.2x, 2.8x, and 2.0x turnover. Because Sea discloses neither current originations nor duration, these flow estimates must not be read as company guidance. Credit revenue grows slightly slower than principal because mix shifts off-platform and toward more-prime users, while partner funding retains part of the economics.

Bull case: verified underwriting flywheel and funding depth

Product	Three-year historical CAGR	Latest YoY	Management FY+1 guide	Bull CAGR TTM to TTM+5y	Justification
On-platform consumer credit	Not disclosed; Monee total 45.9%	Not disclosed; total 58.9%	No quantified guide	19%	Higher Shopee penetration and conversion gains persist without credit subsidy.
Off-platform consumer credit	Not disclosed; Monee total 45.9%	Not disclosed; total 58.9%	Strong growth for many years	24%	Brazil and Southeast Asian cohorts scale with stable vintage losses and adequate partner funding.
SME credit	Not disclosed; Monee total 45.9%	Not disclosed; total 58.9%	No quantified guide	21%	Marketplace cash-flow underwriting broadens approval without concentration losses.
Payments, wallet, banking, insurance, and wealth	Not disclosed; Monee total 45.9%	Not disclosed; total 58.9%	Long-term earnings potential	18%	Primary-account adoption improves deposits and cross-sell, but the combined line lacks a disclosed base.

The audited bull path produces a 21.1% segment CAGR and annual total revenue of US$4.767 billion, US$5.766 billion, US$6.978 billion, US$8.449 billion, US$10.233 billion, and US$12.400 billion. The prior US$15.242 billion bull implied a 26.2% five-year CAGR and was not adequately constrained by the nondisclosure of country mix, vintage losses, APR, duration, current originations, or retained on-book economics. The revised bull still requires country and product NPL stability, funding partners willing to scale, digital-bank deposits that do not require uneconomic promotional rates, and payment cross-sell that raises fee and float income.

The audited bull loan book reaches US$28.786 billion, a 21.0% CAGR: US$8.770 billion on-platform, US$15.538 billion off-platform, and US$4.479 billion SME. Horizon originations are a turnover sensitivity of US$95.1 billion at 4.4x, 3.0x, and 2.2x turnover, not a forecast from disclosed current originations. Revenue growth remains below loan-book growth in the largest off-platform and SME pools because prime mix and partner funding lower revenue retained per dollar of principal. Even this lower bull is credible only if vintage-adjusted risk-adjusted returns remain strong; the current 1.0% NPL alone does not prove that.

Bear case: seasoning, regulation, and partner retreat

Product	Three-year historical CAGR	Latest YoY	Management FY+1 guide	Bear CAGR TTM to TTM+5y	Justification
On-platform consumer credit	Not disclosed; Monee total 45.9%	Not disclosed; total 58.9%	No quantified guide	10%	Tighter approvals protect Shopee cohorts after losses rise.
Off-platform consumer credit	Not disclosed; Monee total 45.9%	Not disclosed; total 58.9%	Strong growth for many years	13%	Competition and regulation lower yield while fraud and collections constrain expansion.
SME credit	Not disclosed; Monee total 45.9%	Not disclosed; total 58.9%	No quantified guide	11%	Merchant stress and concentration reduce limits and increase reserves.
Payments, wallet, banking, insurance, and wealth	Not disclosed; Monee total 45.9%	Not disclosed; total 58.9%	Long-term earnings potential	8%	Payment volume grows, but monetization compresses and cross-sell disappoints.

The bear is a growth-and-economics reset rather than a collapse. Revenue still compounds at 11.0% to US$8.018 billion because the region's digital credit and payment adoption continue. Annual totals are US$4.767 billion, US$5.286 billion, US$5.864 billion, US$6.507 billion, US$7.222 billion, and US$8.018 billion. The loan book reaches US$18.814 billion, an 11.1% CAGR, split US$5.877 billion on-platform, US$9.765 billion off-platform, and US$3.172 billion SME. Horizon originations are a US$55.9 billion turnover sensitivity at 4.0x, 2.7x, and 1.9x; no disclosed current origination base exists.

The negative mechanism is internally linked: higher early delinquencies make off-book partners more selective; Monee retains 80% of balances on-book, funding cost rises, and eligibility rules reduce approval. Revenue continues to grow because

balances and transactions grow, but yield compression and provisions prevent margin leverage. Indonesia's more formal BNPL rules can benefit compliant platforms over time, yet the near-term costs of eligibility analysis, disclosures, data controls, and collection standards are real.

9. Forward `Operating segment income (loss)` margin assumptions

Product margins and profit

Case	Product	Horizon revenue	Horizon `Operating segment income (loss)` margin	Horizon profit	Mechanism
Bear	On-platform consumer credit	US$2.335bn	14%	US$0.327bn	Higher loss cost offsets embedded distribution.
Bear	Off-platform consumer credit	US$3.280bn	8%	US$0.262bn	Funding retreat, fraud, and lower prime yields.
Bear	SME credit	US$1.129bn	10%	US$0.113bn	Cyclical losses and slower collections.
Bear	Payments, wallet, banking, insurance, and wealth	US$1.274bn	6%	US$0.076bn	Incentives and regulated payment pricing limit leverage.
Base	On-platform consumer credit	US$2.792bn	25%	US$0.698bn	Embedded acquisition and transaction data partly offset seasoning.
Base	Off-platform consumer credit	US$3.903bn	19%	US$0.741bn	Scale is substantially absorbed by lower ROA, higher provisions, and competition.
Base	SME credit	US$1.348bn	18%	US$0.243bn	Merchant data partly offsets larger-ticket and concentration risk.
Base	Payments, wallet, banking, insurance, and wealth	US$1.597bn	17%	US$0.272bn	Deposit and fee cross-sell provide limited operating leverage.
Bull	On-platform consumer credit	US$3.460bn	28%	US$0.969bn	Strong underwriting and repeat use lift contribution.
Bull	Off-platform consumer credit	US$5.218bn	25%	US$1.305bn	Stable cohorts attract partner funding without surrendering too much economics.
Bull	SME credit	US$1.738bn	23%	US$0.400bn	Granular limits and repeat usage control losses.
Bull	Payments, wallet, banking, insurance, and wealth	US$1.983bn	22%	US$0.436bn	Primary-account economics and cross-sell scale.

The audited base blended margin is 20.27%, 166 basis points below the TTM 21.93% and only 38 basis points above Q2 2026's 19.89%. The prior 22.36% was not an arithmetic error, but it implicitly assumed that scale would more than offset the visible sequential compression while product economics remained undisclosed. The revised base lets off-platform, Brazil, newer-country, and more-prime mix absorb the scale benefit, alongside risk, compliance, and funding investment. On-platform remains the highest-margin credit line because acquisition and data advantages are strongest. The non-credit margin rises modestly but is not treated as software-like.

The audited bull margin expands by 315 basis points from TTM to 25.08%, rather than the prior 27.38%. It still requires more than growth: funding cost must fall, partner capacity must increase without taking most of the yield, vintage loss curves must remain stable, and non-credit fees must scale without equivalent incentive expense. Nubank's risk-adjusted NIM and efficiency ratio show that high returns can coexist with meaningful credit expense at scale, but Monee has not disclosed country, vintage, APR, duration, or product P&L evidence that would justify equivalent economics today.

The bear margin falls by 1,222 basis points to 9.71%. The direct mechanism is a higher provision and funding burden concentrated in off-platform and SME portfolios, with weaker non-credit monetization. The margin does not become negative because embedded distribution and payment activity continue, management tightens approvals, and the model assumes Monee remains operationally profitable. A more severe macro or conduct event could be worse than this modeled bear.

Credit, funding, and monetization guardrails

Metric at 2031-06-30	Bear	Base	Bull
Total loan principal	US$18.814bn	US$22.795bn	US$28.786bn

Metric at 2031-06-30	Bear	Base	Bull
Five-year loan-balance CAGR	11.1%	15.5%	21.0%
Product loan-balance CAGRs, on-platform / off-platform / SME	8% / 13% / 12%	12% / 18% / 15%	17% / 24% / 20%
Horizon turnover, on-platform / off-platform / SME	4.0x / 2.7x / 1.9x	4.2x / 2.8x / 2.0x	4.4x / 3.0x / 2.2x
Annual originations, turnover sensitivity	US$55.9bn	US$70.8bn	US$95.1bn
On-book share, analyst estimate	80%	70%	60%
90-day NPL ratio	3.8%	2.0%	1.2%
Gross credit loss cost on average balances	8.0%	5.0%	3.8%
Provision expense on average balances	8.5%	5.5%	4.0%
Weighted funding cost on on-book balances	9.0%	7.0%	6.0%
Credit revenue growth versus loan growth	Roughly aligned, lower yield	Credit revenue modestly slower	Credit revenue modestly slower
Horizon blended `Operating segment income (loss)` margin	9.71%	20.27%	25.08%

The credit-product profit can also be read through an explicit horizon cost bridge. Average principal means the average of the year-four and year-five modeled ending balances. “Other credit costs and revenue-basis residual” is the algebraic amount required to connect allocated credit revenue to the product-margin assumption after provision and funding. It includes servicing, transactions, fraud, collections, customer acquisition, product technology, and any mismatch between reported segment revenue and the analyst's credit-yield construct. It is not an issuer-disclosed line and it cannot validate the margin assumption; its size is itself a disclosure warning.

Horizon credit bridge	Bear	Base	Bull
Credit-product revenue	US$6.744bn	US$8.042bn	US$10.416bn
Average credit principal	US$17.865bn	US$21.256bn	US$26.272bn
Provision expense	US$1.519bn	US$1.169bn	US$1.051bn
Funding expense on modeled on-book share	US$1.286bn	US$1.042bn	US$0.946bn
Other credit costs and revenue-basis residual	US$3.237bn	US$4.149bn	US$5.746bn
Credit-product `Operating segment income (loss)`	US$0.702bn	US$1.682bn	US$2.673bn

The table is a sensitivity framework, not a claim about issuer-disclosed cost ratios. A 100-basis-point change in provision expense on the base horizon average principal would change annual pre-tax segment economics by roughly US$0.213 billion before tax and any behavioral response. That equals about 221 basis points of base horizon segment revenue. A 100-basis-point change in funding cost on the 70% base on-book share would change annual economics by roughly US$0.149 billion, about 154 basis points of base revenue. These exposures are why a one-point NPL ratio should never be read as the full credit result.

The funding-cost calculation is deliberately applied to on-book balances only. Off-book loans can still create guarantee, first-loss, servicing, or revenue-sharing economics, but the data package does not quantify them. The model therefore stresses retained revenue through product CAGRs rather than inventing a contractual spread. Deposits can lower the weighted cost but are not free; regulatory liquidity, depositor pricing, and capital requirements remain.

10. Segment rollup and reconciliation

Case	On-platform credit revenue	Off-platform credit revenue	SME credit revenue	Payments, wallet, banking, insurance, and wealth revenue	Segment revenue	Revenue sum residual
Bear	US$2.335bn	US$3.280bn	US$1.129bn	US$1.274bn	US$8.018bn	US$0.000bn
Base	US$2.792bn	US$3.903bn	US$1.348bn	US$1.597bn	US$9.639bn	-US$0.001bn rounding
Bull	US$3.460bn	US$5.218bn	US$1.738bn	US$1.983bn	US$12.400bn	US$0.001bn rounding

Case	Product profit sum	Blended `Operating segment income (loss)` margin	Segment `Operating segment income (loss)`	Profit sum residual	Probability
Bear	US$0.779bn	9.71%	US$0.779bn	US$0.000bn unrounded	30%
Base	US$1.954bn	20.27%	US$1.954bn	US$0.000bn unrounded	50%
Bull	US$3.109bn	25.08%	US$3.109bn	US$0.000bn unrounded	20%

Every product revenue is the TTM analyst allocation compounded for exactly five years at the scenario-specific rate in Section 8. Every product profit is horizon revenue multiplied by the product margin in Section 9. The segment margin is the revenue-weighted average, not an independent assumption. Unrounded calculations give bear revenue US$8.017671 billion and profit US$0.778630 billion; base revenue US$9.639409 billion and profit US$1.953575 billion; and bull revenue US$12.399799 billion and profit US$3.109495 billion. Rounded product lines and segment totals reconcile within 0.01%, comfortably inside the 1% requirement.

The probabilities are intentionally nonuniform: 30% bear, 50% base, and 20% bull. The base receives the highest weight because current reported growth, low NPL, and management confidence support continued expansion, while declining quarterly margin and missing cohort disclosure restrain conviction. Bear weight exceeds bull because loan seasoning, regulatory tightening, and off-platform competition can reveal losses after revenue has already been recognized. Bull requires several favorable mechanisms simultaneously, including funding depth, stable vintages, successful Brazil expansion, and non-credit cross-sell.

The probability-weighted horizon segment revenue is US$9.705 billion and probability-weighted `Operating segment income (loss)` is US$1.832 billion. Those are diagnostic expected values, not a fourth scenario and not an authorization for valuation or portfolio action.

11. Key risks and wildcards

- **Bear — credit seasoning:** the 1.0% 90-day NPL ratio may understate ultimate loss because rapid growth creates young cohorts. The decisive evidence is vintage-adjusted 30-, 60-, and 90-day roll rates, not the aggregate stock ratio.
- **Bear — off-platform adverse selection:** users who borrow outside Shopee may provide less transaction context and may multi-home across lenders. Growth can therefore increase fraud, loss, and servicing intensity faster than revenue.
- **Bear — regulatory and conduct burden:** eligibility, credit-scoring, disclosure, collections, data, and economic-benefit rules can cap approval or pricing and raise compliance cost. Mis-selling or aggressive collections could damage Shopee as well as Monee.
- **Bear — funding reflexivity:** partner capital may retreat when losses rise, forcing more assets on-book at higher funding and capital cost. Promotional deposits can mask rather than solve this problem.
- **Bear and base — perimeter opacity:** Sea does not disclose on-book share, country balances, APR, duration, cohort losses, deposits, or product revenue. Strong aggregate revenue can conceal a weakening risk-adjusted spread.
- **Base — cannibalization versus uplift:** on-platform credit may raise Shopee conversion but also substitute for other payment methods or finance demand that would have occurred anyway. Segment economics must be assessed jointly without double-counting benefits.
- **Bull — data flywheel:** stable product-country-segment vintages could attract off-book funding and lower acquisition cost, allowing Monee to scale faster with less capital intensity than the bear assumes.
- **Bull — primary banking:** successful digital-bank accounts and deposits could deepen customer relationships, lower funding cost, and add payments, insurance, and wealth revenue. This remains upside because the data package lacks a quantified deposit and cross-sell series.
- **All cases — competition:** GoTo, Grab, Nubank, specialist BNPL lenders, banks, and instant-payment rails can compete on price, limits, merchant acceptance, and convenience. Monee's advantage is strongest inside Shopee and least defensible in generic prime credit and payments.
- **All cases — FX and country concentration:** revenue is reported in USD while borrowers, merchants, funding, and losses arise in local currencies. Currency moves can alter reported growth and funding economics even when local credit performance is stable.

The most useful monitoring dashboard would include loan principal by country, product, and on-book status; annualized originations and repayment turnover; 30-90 and 90-plus delinquency by vintage; gross charge-offs and recoveries; provision expense as a percentage of average principal; risk-adjusted yield after funding and losses; deposit balances and cost; partner-funding concentration; and `Operating segment income (loss)` by product. Until Sea discloses more of that stack, the model should carry a higher bear weight than the 1.0% headline NPL alone might suggest.

Summary

Case	Segment TTM+5y Revenue	Exact profit metric	Segment TTM+5y Profit Margin	Segment TTM+5y Profit	Probability
Bear	US$8.018bn	Operating segment income (loss)	9.71%	US$0.779bn	30%
Base	US$9.639bn	Operating segment income (loss)	20.27%	US$1.954bn	50%
Bull	US$12.400bn	Operating segment income (loss)	25.08%	US$3.109bn	20%

The central conclusion is that Monee can plausibly compound revenue near 15% for five years while keeping its exact-basis margin near 20%, but the investment-quality question is credit-adjusted, not top-line. The current scale, 1.0% 90-day NPL, and embedded Shopee distribution are meaningful strengths. The sequential margin compression, rapid move off-platform, and absence of vintage, funding, country, APR, duration, on-book, and product P&L disclosure are equally meaningful constraints. Loan-book growth is an input to revenue, provisions, capital, and funding needs; it is not a proxy for any one of them.

Appendix B3 - Garena

Garena — Segment Deep Dive

Run: `pulse-cio-20260825T060138+0800` **Cutoff:** 2026-08-25 SGT **TTM anchor:** Q3 2025 + Q4 2025 + Q1 2026 + Q2 2026, ended 2026-06-30 **Exact horizon:** 2031-06-30 **Currency:** USD; tables use US$ billions unless stated **Exact sealed profit basis:** `Operating segment income (loss)` **Boundary:** Research only; no trade, message, portfolio, ranking, sizing, or execution authority. `trade_execution_authorized=false`.

0. Segment boundary and taxonomy

Garena is Sea's digital-entertainment segment, comprising game development and publishing. The economic perimeter is continuous over FY2021–FY2025, although Sea changed the heading from Digital Entertainment to Garena during 2025. The issuer does not disclose title-level revenue or profit. Free Fire, Arena of Valor, licensed games, and the pipeline all sit inside one financial segment. All Sea historical dollars, growth rates, user metrics, management quotations, and accounting classifications below come only from the DR-cleared `data_package.md` and exact-byte `statutory_bridge.json`. Live sources are used only for external context. The QFR-sealed metric is `Operating segment income (loss)`, positive values are profits, and no corporate cost is allocated here.

1. What Garena actually is

Garena combines two businesses. It develops and operates owned games, led by Free Fire and Free Fire MAX, and it publishes third-party games in selected markets, providing localization, distribution, payments, live operations, support, community management, and esports. Its public site describes a footprint above 160 markets and highlights Free Fire and Garena Delta Force. Its terms permit monetisation through virtual currencies, virtual items, other entitlements, and subscriptions in some jurisdictions. These sources explain the model, not Sea's historical numbers. ([Garena](https://intl.garena.com/); [terms](https://content.garena.com/legal/tos/tos_en.html))

The customer is the player, but only a minority pays. The funnel begins with acquisition and retention. A smaller cohort buys diamonds, skins, characters, passes, subscriptions, or other entitlements. Economics are therefore the product of active users, payer penetration, spending per payer, and live-content cadence. TTM average quarterly active users were 659.225 million and average paying users were 66.150 million, implying 10.03% payer penetration. These are segment-wide quarterly averages from data-package §5, not Free Fire-only counts and not DAU.

Free Fire is the franchise core. Its lightweight mobile design supports a broad device base, important in Garena's emerging-market footprint. Local events, social play, creator content, collaborations, and esports make it a live service rather than a box sale. Garena's 2026 esports roadmap expands global-final participation from 18 to 24 teams and adds a stand-alone Clash Squad tournament. This does not prove bookings, but shows ongoing investment in community density. ([Free Fire roadmap](https://ff.garena.com/en/article/1605/))

The non-Free-Fire portfolio includes mature licensed or operated titles and a prospective pipeline. Licensed games diversify engagement but can carry royalties or profit-sharing absent from owned IP. Palworld Online and Monster Hunter Outlanders are pipeline evidence in the cleared package, not booked revenue. An announcement creates optionality; only launch, retention, conversion, and durable content create economics. Because Sea discloses neither title-level bookings nor launch economics, no scenario assigns a separate dollar value to either project. Base treats pipeline spending as a margin burden with no discrete revenue credit; bear treats it mostly as cost; bull requires one scaled durable launch, but captures that success only through aggregate Garena users, payer conversion, and payer spending after launch.

Distribution is digital through app stores, direct or authorized payment channels, and PC platforms. Local community teams and esports are part marketing and part retention infrastructure. Platform tolls matter, but the official Google and Apple program pages show that fee treatment depends on program eligibility and transaction conditions. Garena's platform, region, payment-channel, and fee mix is undisclosed, so the forecast does not insert a universal app-store percentage. The links were live-checked at the 2026-08-25 cutoff and are context only, not financial inputs. ([Google fees](https://support.google.com/googleplay/android-developer/answer/112622?hl=en); [Apple program](https://developer.apple.com/app-store/small-business-program/))

2. Current economics

Garena generated US$2.797225 billion of TTM revenue and US$1.456367 billion of `Operating segment income (loss)`, a 52.06% margin. It is only about one tenth of group revenue but a much larger share of segment profit. That creates a trap: a high-margin pool can look stable while the underlying franchise remains concentrated and hit-driven.

TTM bookings were about US$3.208000 billion, summing Q3 2025 through Q2 2026 bookings of US$0.841 billion, US$0.672 billion, US$0.931 billion, and US$0.764 billion. Exact disclosed Garena revenue over the same four quarters was US$2.797225 billion, so revenue was 87.1953% of the rounded bookings sum and the difference was US$0.410775 billion. Because bookings are issuer-rounded, the ratio is an analytical anchor rather than a falsely exact accounting balance. The difference reflects recognition timing and related cost timing, not lost demand. A forecast that mechanically equates bookings with revenue is unsafe. (Filed exhibits [Q3 2025](https://www.sec.gov/Archives/edgar/data/1703399/000119312525275616/d75589dex991.htm), [Q4/FY2025](https://www.sec.gov/Archives/edgar/data/1703399/000119312526088151/d106475dex991.htm), [Q1 2026](https://www.sec.gov/Archives/edgar/data/1703399/000119312526219378/d78490dex991.htm), and [Q2 2026](https://www.sec.gov/Archives/edgar/data/1703399/000119312526344596/d120948dex991.htm); DP §§3a and 5.)

The funnel can be expressed without inventing title dollars. Average QAU was `(670.8 + 633.3 + 666.5 + 666.3) / 4 = 659.225 million`; average QPU was `(65.9 + 58.0 + 72.6 + 68.1) / 4 = 66.150 million`; payer ratio was `66.150 / 659.225 = 10.0345%`; average quarterly bookings were `3.208 / 4 = US$0.802 billion`; and quarterly bookings per payer were `US$802m / 66.150m = US$12.124`. All are Garena-wide. Bookings growth decelerated from 51.1% in Q3 2025 to 23.8%, 20.1%, and 15.5% in Q2 2026. Payer penetration ended higher, supporting bookings even as QAU was roughly flat between Q3 and Q2. (DP §5, filed exhibits cited above.)

Capital intensity is human and commercial rather than physical: designers, engineers, artists, anti-cheat, servers, support, licensing, marketing, esports, and continuous content. Successful owned content has high incremental margin, but failed projects expense development and marketing without a revenue asset. Licensed games reduce creative risk while sharing economics. The 52.06% current margin reflects mature franchise scale and recognition of prior bookings; it is not a permanent floor.

3. Unit economics and revenue recognition

The bottom-up identity is `aggregate Garena bookings = average QAU × payer ratio × quarterly bookings per payer × four`. GAAP revenue equals current bookings plus recognition of prior deferrals less new deferrals. The model uses a scenario revenue-to-bookings factor, not a take rate. TTM is 87.1953%. Bear rises above 100% because a shrinking business releases prior deferrals, temporarily cushioning revenue. Base is 96% as growth moderates. Bull is 93% because rapid bookings growth continues adding deferral. QAU, payers, and spending are segment-wide and therefore already include every launched title; adding a separate pipeline-bookings figure would double count any title success embedded in those aggregate assumptions.

Active users depend on acquisition, churn, device accessibility, competition, and content. Payer penetration depends on design, payment access, purchasing power, trust, and monetisation fairness. Spend per payer depends on price, item mix, event cadence, whale concentration, and income. Management can raise monetisation temporarily, but over-monetisation can damage retention. A healthy case needs engagement and spend to reinforce one another.

Free Fire absorbs fixed costs across a huge audience. Owned IP avoids the full royalty burden of third-party franchises, while incremental digital-item production costs little. Yet content is not free: updates, fraud control, creators, customer support, and user acquisition are continuous. Platform fees are another material gross-to-net drain. Direct top-ups may mitigate them, but channel mix is undisclosed; this appendix embeds the uncertainty in margins rather than fabricating a fee percentage.

Development outcomes are asymmetric. Spending precedes launch; marketing peaks around launch; support scales with demand; licensed IP may require guarantees, royalties, or revenue sharing. Contract terms are undisclosed. The model therefore credits **US$0 of separately identified pipeline bookings in every case**. That zero is not a prediction that the projects earn nothing; it is a non-disclosure control that prevents invented title dollars. Base and bear absorb pipeline investment through lower margins. Bull permits a successful launch to improve aggregate portfolio QAU, payer conversion, and payer spending, but never adds a second pipeline revenue line on top of those segment-wide drivers.

4. Competitive dynamics

Garena competes for time before money. Free Fire faces PUBG Mobile, Call of Duty: Mobile, Fortnite, and Delta Force; Mobile Legends competes for the same social graph, esports attention, and wallet. Short video and other entertainment also

compete. Individual switching cost is low, but moving friends, guild, rank, cosmetics, familiarity, and creators together is harder.

Download leadership is useful but insufficient. Garena's current 2026 roadmap, citing Sensor Tower, says Free Fire was the most downloaded mobile game in its genre for six consecutive years. That is issuer marketing evidence about reach, not a bookings, revenue, retention, or monetisation series, and it receives no standalone forecast value. Reach creates a funnel; monetisation power may sit elsewhere. The issuer page was live-checked at the 2026-08-25 cutoff. ([Free Fire roadmap](https://ff.garena.com/en/article/1605/))

Low-device optimization and local content are advantages. A heavier competitor may offer graphics but exclude users. Garena's localization, payments, community, and esports can make global IP relevant regionally. These capabilities help licensed titles but do not guarantee adoption. Pricing power is conditional: players can refuse or leave. Sustained payer conversion and spend with stable engagement, not nominal price increases, are the proof.

The pipeline competes with thousands of launches and Garena's own titles. Recognizable IP can lower discovery risk but raise royalties and reduce control. A successful portfolio lowers Free Fire concentration; a failed one hurts twice through costs and absent revenue. Base assumes development continues and may improve engagement, but gives no discrete title revenue; Bull requires evidenced launch success inside aggregate KPIs, not a second revenue plug.

5. Segment moat

Garena has a real but narrow moat: Free Fire's social graph and accumulated content, live-operations capability, localization, esports, payments, and emerging-market distribution. The 2026 tournament expansion evidences continued community investment. The moat is narrow because it is title-specific. Players do not owe loyalty to Garena. Licensed-title economics do not necessarily inherit Free Fire's ownership economics.

Free Fire's longevity is positive evidence that operations are capability, not luck alone. Yet Garena revenue fell more than half between FY2021 and FY2024 before recovering, proving that longevity does not eliminate cyclicality. Over five to ten years the moat survives if Free Fire retains community without harsher monetisation, Garena creates another durable pool, and platforms/IP owners do not absorb the value. Base mostly clears the first, only partly the second, and assumes manageable platform economics. Bear breaks the first two. Bull clears all three.

6. Historical growth rates

Title-level dollars are not disclosed, so the finest valid financial line is Garena total.

Product / sub-segment	FY2021 revenue	FY2022 revenue	FY2023 revenue	FY2024 revenue	FY2025 revenue	FY22–FY25 CAGR	Latest YoY	Data-package cite
Garena total	4.320 [DP §3 Garena]	3.877 [DP §3 Garena]	2.172 [DP §3 Garena]	1.911 [DP §3 Garena]	2.409 [DP §3 Garena]	-14.6%	26.1% [DP §3 YoY]	`data_package.md` §3
Free Fire	N/D [DP §10.1]	N/D [DP §10.1]	N/D [DP §10.1]	N/D [DP §10.1]	N/D [DP §10.1]	N/A	N/A	DP §4 and §10
Non-Free-Fire portfolio	N/D [DP §10.1]	N/D [DP §10.1]	N/D [DP §10.1]	N/D [DP §10.1]	N/D [DP §10.1]	N/A	N/A	DP §4 and §10

Specific filing trail: the annual segment and KPI history is reproduced from the DR-cleared package's live-source inventory and the official [FY2021](https://www.sec.gov/Archives/edgar/data/1703399/000114036122015578/brhc10036000_20f.htm), [FY2022](https://www.sec.gov/Archives/edgar/data/1703399/000114036123017021/brhc10050860_20f.htm), [FY2023](https://www.sec.gov/Archives/edgar/data/1703399/000114036124022429/ef20015280_20f.htm), [FY2024](https://www.sec.gov/Archives/edgar/data/1703399/000119312525084311/d940352d20f.htm), and [FY2025](https://www.sec.gov/Archives/edgar/data/1703399/000114036126015366/ef20067274_20f.htm) Forms 20-F. Current-quarter figures use the filed [Q3 2025](https://www.sec.gov/Archives/edgar/data/1703399/000119312525275616/d75589dex991.htm), [Q4/FY2025](https://www.sec.gov/Archives/edgar/data/1703399/000119312526088151/d106475dex991.htm), [Q1 2026](https://www.sec.gov/Archives/edgar/data/1703399/000119312526219378/d78490dex991.htm), and [Q2 2026](https://www.sec.gov/Archives/edgar/data/1703399/000119312526344596/d120948dex991.htm) exhibits. These sources were live-fetched and hash-bound by D/DR at the 2026-08-25 cutoff; no prior report or cached external estimate controls a number here.

Arithmetic checks pass within 2%: `4.320 × 89.7% = 3.875` versus 3.877; `3.877 × 56.0% = 2.171` versus 2.172; `2.172 × 88.0% = 1.911`; `1.911 × 126.1% = 2.410` versus 2.409. Differences are rounding.

KPI	FY2021	FY2022	FY2023	FY2024	FY2025	Latest interim	Data-package cite
Bookings, US$bn	4.6	2.8	1.8	2.1	2.9	Q2 2026: 0.764	DP §0a and §5
Average quarterly active users, m	689.3	572.2	527.2	622.3	657.7	Q2: 666.3	DP §0a and §5
Average quarterly paying users, m	85.6	53.2	40.2	50.5	62.6	Q2: 68.1	DP §0a and §5
Paying-user ratio	N/D	N/D	N/D	N/D	N/D	Q2: 10.2%	DP §5

The history is not a smooth compounder. Bookings fell from US$4.6bn to US$1.8bn before recovering to US$2.9bn. Users and payers followed a trough and recovery. Together with the undisclosed title mix, nonexistent pipeline dollar guide, and bookings-growth deceleration to 15.5%, this supports nonuniform 40% bear, 50% base, and 10% bull probabilities.

7. Management guidance

Call	Verbatim quotation from DP §6	Interpretation
Q3 2025	“more than 30% year-on-year growth in bookings”	FY2025 outlook subsequently delivered; historical recovery evidence, not a five-year rate.
Q4 2025	“double-digit growth for Garena for 2026”	Broad near-term direction; it does not distinguish bookings from revenue.
Q1 2026	“building the long-term value of our game portfolio”	Longevity and breadth are goals; no pipeline dollars were guided.
Q2 2026	“work towards diversifying our portfolio”	Named pipeline is evidence only; revenue waits for launch and retention.

Bookings growth slowed to 15.5% by Q2 while payer penetration stayed healthy and Free Fire had over 100m average DAU. This supports positive near-term direction but not indefinite extrapolation. Beginning Q3 2026, adjusted EBITDA will exclude net deferred-revenue changes and related cost, disclosed separately. That is presentation, not economics. This model never uses adjusted EBITDA: every table stays on `Operating segment income (loss)`. The definition change cannot manufacture margin.

8. Forward growth assumptions

Base

Driver	Historical anchor	Latest	Mgmt FY+1	Base horizon assumption	Justification
Aggregate portfolio QAU	TTM 659.225m	Q2 666.3m	Double-digit Garena growth	650m; -0.3% CAGR	Franchise remains durable but mature; no title split is inferred.
Payer ratio	TTM 10.03%	Q2 10.2%	None	10.5%	Payments/content modestly improve conversion.
Quarterly bookings per payer	TTM US$12.12	Growth slowed	None	US$13.00; 1.4% CAGR	Small pricing/mix gain, affordability constrains.
Separate pipeline credit	No title dollars	Two named projects	Diversify	US$0.000bn bookings	No unsupported title dollars; pipeline spending weighs on margin.
Revenue/bookings	TTM 87.20%	Revenue exceeds bookings growth	None	96%	Slower growth moderates deferral additions.

`650m × 10.5% × US$13 × 4 = US$3.549bn` aggregate bookings; no separate pipeline value is added; times 96% gives US$3.407040bn revenue. Exact five-year revenue CAGR: 4.0231%. This is below the recent 15.5% bookings-growth print because that rate has already decelerated from 51.1% and the five-year case must survive normalization rather than extrapolate the rebound.

Bear

Driver	Historical anchor	Latest	Mgmt FY+1	Bear horizon assumption	Mechanism
Aggregate portfolio QAU	Prior contraction proves downside	TTM 659.225m	Near-term only	475m; -6.4% CAGR	Rival and weak cadence fragment social graph.
Payer ratio	TTM 10.03%	Q2 10.2%	None	8.2%	Monetisation fatigue lowers conversion.

Driver	Historical anchor	Latest	Mgmt FY+1	Bear horizon assumption	Mechanism
Quarterly bookings per payer	TTM US$12.12	Decelerating bookings	None	US$9.75; -4.3% CAGR	Discounts and lower-spend mix.
Separate pipeline credit	No title dollars	Announcements only	Diversify	US$0.000bn bookings	Delays/failures while development and launch cost persists.
Revenue/bookings	TTM 87.20%	Deferral supports revenue	None	108%	Prior deferrals cushion decline temporarily.

`475m × 8.2% × US$9.75 × 4 = US$1.519050bn` aggregate bookings; no separate pipeline value is added; times 108% gives US$1.640574bn revenue. Exact five-year revenue CAGR: -10.1219%. Distinct mechanism: users, conversion, and spend fall, pipeline fails, and recognition masks some demand damage.

Bull

Driver	Historical anchor	Latest	Mgmt FY+1	Bull horizon assumption	Mechanism
Aggregate portfolio QAU	Recovery shows reactivation	TTM 659.225m	Double-digit growth	820m; 4.5% CAGR	Free Fire remains relevant and one launch broadens the aggregate audience; no title allocation is inferred.
Payer ratio	TTM 10.03%	Q2 10.2%	None	12.0%	Better payments and fair content deepen conversion.
Quarterly bookings per payer	TTM US$12.12	Still positive growth	None	US$15.75; 5.4% CAGR	Passes, pricing, and mix raise spend.
Separate pipeline credit	No title dollars	Named pipeline	Diversify	US$0.000bn bookings	A hit must appear inside aggregate users/payers/spend; no added title-dollar plug.
Revenue/bookings	TTM 87.20%	Growth adds deferral	None	93%	Rapid bookings continue adding deferrals.

`820m × 12% × US$15.75 × 4 = US$6.199200bn` aggregate bookings; no separate pipeline value is added; times 93% gives US$5.765256bn revenue. Exact five-year revenue CAGR: 15.5628%. Engagement, conversion, spend, and a new hit all must work, but pipeline success is counted only once through segment-wide KPIs.

9. Forward `Operating segment income (loss)` margins

Case	TTM margin	Horizon margin	Change	Mechanism
Bear	52.06%	28.00%	-2,406 bps	Scale falls faster than studios/support; failed launches expense development/marketing; deferral release supports revenue, not matching cash economics.
Base	52.06%	44.00%	-806 bps	Free Fire concentration, unrewarded pipeline spending, launch marketing, and non-Free-Fire royalties dilute mature owned-IP economics.
Bull	52.06%	46.00%	-606 bps	Volume creates leverage, but a successful new title still bears launch cost, royalties, and an unproven mix; current Free Fire economics are not transferred to it.

Margin applies to GAAP revenue, not bookings, so deferrals are not counted twice. Platform fees, royalties, development, marketing, and live operations enter once. No Sea unallocated expense is included. Base falls to 44%, rather than the draft's 47%, because the model gives no separately supported pipeline revenue while retaining its investment burden. Bull falls to 46%, rather than 50%, because even a successful new title cannot inherit Free Fire's mature owned-IP economics without disclosed contract and cohort evidence. These are forecast margins on `Operating segment income (loss)`, never adjusted EBITDA.

10. Segment rollup

Case	QAU, m	Payer ratio	Quarterly bookings/payer	Aggregate bookings	Separate pipeline credit	Total bookings	Revenue/bookings	Horizon revenue
Bear	475	8.2%	US$9.75	1.519050	0.000000	1.519050	108%	1.640574
Base	650	10.5%	US$13.00	3.549000	0.000000	3.549000	96%	3.407040
Bull	820	12.0%	US$15.75	6.199200	0.000000	6.199200	93%	5.765256

Every total is reconstructable; rollup residual is 0.00% in all cases.

Case	TTM revenue	2027-06-30	2028-06-30	2029-06-30	2030-06-30	2031-06-30	Exact 5y CAGR
Bear	2.797225	2.500000	2.180000	1.960000	1.780000	1.640574	-10.1219%
Base	2.797225	3.000000	3.130000	3.240000	3.330000	3.407040	4.0231%
Bull	2.797225	3.350000	3.850000	4.450000	5.100000	5.765256	15.5628%

Case	TTM margin	2027 margin	2028 margin	2029 margin	2030 margin	2031 margin	2031 profit
Bear	52.06%	45.0%	39.0%	34.0%	30.0%	28.0%	0.459361
Base	52.06%	50.0%	48.5%	47.0%	45.5%	44.0%	1.499098
Bull	52.06%	52.0%	51.5%	50.0%	48.0%	46.0%	2.652018

Five-year revenue checks: `(1.640574/2.797225)^(1/5)-1=-10.1219%`; `(3.407040/2.797225)^(1/5)-1=4.0231%`; `(5.765256/2.797225)^(1/5)-1=15.5628%`. Five-year profit checks from the US$1.456367bn TTM anchor are -20.6080%, +0.5800%, and +12.7356%, respectively. No six-year FY2025–FY2031 interval is used.

Sea discloses neither title revenue nor title `Operating segment income (loss)`, so a title-by-title revenue-weighted margin would be fabricated. Each scenario therefore applies one directly forecast segment margin to the one disclosed Garena revenue perimeter. Probability weighting is separate and arithmetically visible below; its implied margin is weighted profit divided by weighted revenue, not the average of the three margins.

Case	Probability	Weighted revenue contribution	Weighted profit contribution
Bear	40%	0.656230	0.183744
Base	50%	1.703520	0.749549
Bull	10%	0.576526	0.265202
Total / implied	100%	2.936275	1.198495 / 40.8168% margin

Analytical stress tests behind the rollup

The model deliberately separates reach from monetisation. A common shortcut is to grow bookings at one rate and then attach the current margin. That approach would hide the fact that multiple weak drivers can offset one another for a few quarters. For example, a rising payer ratio can conceal declining active users, or higher spend per payer can conceal fewer payers. The bear case therefore requires the complete identity to be visible. Horizon paying users fall to 38.950 million, calculated as 475 million QAU times 8.2%. Quarterly bookings per payer fall to US$9.75. This produces only US$379.763 million of quarterly mature-portfolio bookings. No residual growth plug exists.

The base case is intentionally restrained relative to recent reported growth. Horizon paying users are 68.250 million, only modestly above the TTM average of 66.150 million. The payer ratio improves, but the active-user base is slightly smaller. Quarterly bookings per payer rise from US$12.124 to US$13.00. No separate pipeline dollar is credited. Most of the five-year revenue growth therefore comes from modest monetisation and revenue recognition catching up with prior bookings rather than from heroic user growth. This is consistent with an evergreen franchise that remains commercially relevant but no longer repeats the rebound rate. The 44% margin makes pipeline spending and concentration visible even when aggregate revenue grows.

The bull case is not simply the base case with a higher percentage. Horizon paying users rise to 98.400 million and quarterly aggregate bookings become US$1.549800 billion. That outcome requires Free Fire to keep its broad accessibility while raising conversion and payer value, which is difficult because stronger monetisation can hurt retention. It also requires at least one pipeline title to retain users and broaden the aggregate audience. Because all those players and payments already sit inside the 820m QAU, 12.0% payer ratio, and US$15.75 spend assumptions, the model adds no title-dollar line. If the pipeline fails, the aggregate user and payer assumptions themselves become internally inconsistent and the case falls toward Base.

Bull is therefore conjunctive, not cosmetic, and receives only 10% probability.

Revenue recognition deserves its own stress. TTM bookings exceeded GAAP revenue by about US$0.411 billion. If an analyst valued Garena on bookings as if they were same-period revenue, TTM revenue would be overstated by 14.7%. Conversely, in a contraction revenue can temporarily exceed bookings as prior deferrals release. The bear's 108% conversion factor means reported revenue exceeds horizon bookings by US$0.128 billion. That apparent support is finite. Once the deferred balance normalizes, revenue must converge toward or below bookings unless demand recovers. The bear should therefore be monitored on bookings first, not on a superficially resilient GAAP revenue print.

The Q3 2026 adjusted-EBITDA definition change increases the risk of false comparisons. Excluding the net deferred-revenue change and its related cost can make the revised measure closer to a bookings-period contribution view, but it also breaks continuity with previously presented adjusted EBITDA unless both components are reconstructed. This appendix avoids the problem by projecting GAAP revenue and the sealed issuer-disclosed `Operating segment income (loss)`. The synthesis stage can add Sea's unallocated expense once. It must not use the new adjusted-EBITDA series as a bridge adjustment, because the sealed historical bridge contains no such adjustment.

The margin stress is equally important. Base terminal revenue is 21.8% above TTM, yet terminal margin is 806 basis points lower. Profit rises only from US$1.456367 billion to US$1.499098 billion, a 0.58% five-year CAGR. This gap between revenue CAGR and profit CAGR is deliberate. Diversification spending can dilute ownership economics through royalties and launch marketing before it creates supported revenue. A segment can become strategically safer while delivering slower profit growth. The model refuses to count portfolio breadth as both higher growth and higher margin without evidence.

Bear terminal profit falls to US$0.459361 billion, a 20.61% annualized decline from TTM. The fall is more severe than revenue because creative and operating costs are sticky. Garena could cut marketing and studios faster, preserving margin, but that would likely worsen engagement and reduce recovery options. The 28% terminal margin balances the digital product's low variable delivery cost against continued reinvestment. It should not be interpreted as liquidation economics or a floor.

Bull terminal profit reaches US$2.652018 billion, a five-year CAGR of 12.74%, below revenue growth because terminal margin is 46%. This is still a demanding outcome: Free Fire expands, conversion and spend rise, and a new title succeeds, while royalties and marketing prevent implausible margin transfer. Assigning only 10% probability recognizes the hit-rate problem. A higher probability would be inconsistent with the absence of title-level pipeline milestones, commercial terms, retention evidence, and title dollars.

Concentration cannot be quantified exactly from the cleared artifacts. It would be tempting to assume that Free Fire is 80%, 90%, or another share of Garena bookings and then forecast it separately. Doing so would create false precision because Sea does not publish the split. The aggregate-portfolio line is therefore explicitly described as Free Fire-led rather than Free Fire-only. The separate pipeline-credit line stays at zero in every scenario; if a named future title launches successfully, its users and spending enter the aggregate Garena KPIs and are not credited again. Existing Arena of Valor and other launched-title economics likewise remain inside the aggregate portfolio. This preserves the disclosed segment total and makes the concentration gap visible.

The model also avoids interpreting Free Fire's more-than-100-million average DAU as a direct fraction of 666.3 million Garena QAU. Daily active users and quarterly active users have different time windows; dividing them would not yield a valid title share. The DAU evidence shows scale and continued relevance, but cannot provide title-level bookings. Likewise, overall quarterly paying users cannot be assigned to Free Fire without disclosure. The correct underwriting response is a wider probability distribution, not an invented allocation.

Platform-fee sensitivity is embedded rather than separately calculated because the transaction-channel mix is unavailable. Conceptually, a five-percentage-point increase in effective fees on half of horizon bookings would cost roughly 2.5% of bookings before mitigation. On base bookings of US$3.549 billion, that is approximately US$0.089 billion, or about 260 basis points of segment revenue. This is an illustrative sensitivity, not a forecast line. Direct channels, regional rules, taxes, and publisher contracts could change the result. The point is that platform economics are large enough to explain part of the margin spread across scenarios.

Marketing and development should be judged on cohorts rather than on aggregate spend alone, but Sea does not provide project-level cohorts. For an existing title, relevant evidence includes incremental payer conversion, bookings per payer, retention after an event, and whether engagement persists after promotional spend falls. For a new title, relevant evidence is launch cohort retention at 30, 90, and 180 days, payer conversion, organic versus paid acquisition, and content-production cadence. Until such evidence appears, the model treats the pipeline asymmetrically: costs are credible earlier than revenue.

Esports also has two possible economic roles. It can deepen the social graph, create creator content, and lower long-run acquisition cost; or it can become expensive brand maintenance. The 2026 expansion provides evidence of commitment and geographic breadth, not return on investment. The bull case assumes the ecosystem reinforces retention. Base assumes it sustains relevance without transforming economics. Bear assumes spending continues even as user response weakens. This treatment prevents a tournament announcement from being converted directly into bookings.

The probability weights reflect this evidence structure. Base receives 50% because current engagement, payer penetration, management's near-term direction, and franchise longevity support continued profitability. Bear receives 40% because historical bookings already demonstrated a severe peak-to-trough decline, the title mix is opaque, and new-game success is uncertain. Bull receives 10% because all four engines must work together without disclosed title economics. The distribution is intentionally left-skewed despite a high current margin.

Finally, the segment rollup connects cleanly to synthesis. The synthesis agent should take exactly one of the three horizon revenue values and the matching `Operating segment income (loss)` value. It should not add pipeline bookings to revenue again, capitalize bookings as an asset, or allocate Sea's unallocated expenses into Garena. It should project unallocated expenses only once at the consolidated bridge. This preserves the statutory identity and avoids double counting the Q3 adjusted-EBITDA deferral presentation.

11. Risks, wildcards, and monitoring

- **Bear — title concentration:** no Free Fire revenue, bookings, payer, or profit split exists. A sustained fall in total QAU, payer ratio, and bookings would show social-graph erosion.
- **Bear — recognition camouflage:** revenue can outperform bookings during contraction as deferrals release. After Q3 2026, read bookings, GAAP revenue, the separately disclosed deferral effect, and sealed-basis profit together.
- **Bear/Base — pipeline:** named games are unproven economics. Delays, weak retention, or royalties could make them loss-making even with launch downloads.
- **Base/Bull — diversification:** a second durable title would reduce tail risk and reuse localization infrastructure. Durable bookings, not publicity, are required.
- **Bear/Base — platform tolls:** fee schedules, billing rules, and channel mix can move margins; the exact effective rate is undisclosed.
- **Bear — regulation/access:** child safety, loot boxes, privacy, country bans, and removals can impair monetisation quickly.
- **Bear/Base — marketing:** esports and collaborations deepen community but cost money; poor response can turn them into maintenance spending.
- **Bull — creator/esports flywheel:** global tournaments and local content can lengthen franchise life and lower acquisition cost.
- **All — FX/purchasing power:** local spending may grow while USD bookings weaken; aggressive USD pricing can hurt conversion.
- **All — cheating/security:** a compromised competitive environment can damage retention quickly; anti-cheat is necessary reinvestment.

`[DATA GAP: Sea does not disclose title-level revenue, bookings, users, payers, profit, pipeline spend, royalties, effective platform fees, direct-top-up mix, or deferred-revenue duration ladders.]`

Monitor, in order: bookings growth; QAU/QPU; payer ratio; implied bookings per payer; Free Fire DAU commentary; new-title launch and retention; GAAP revenue versus bookings; separately disclosed deferred effect; `Operating segment income (loss)` margin; evidence of a second durable title. A revenue beat without bookings and engagement support is not an upgrade.

The most decisive base-versus-bear signal is a joint deterioration in engagement and monetisation, not either measure alone. A single weak QAU quarter can be seasonal, and a lower payer ratio can reflect a successful influx of non-paying users. The thesis weakens when rolling-four-quarter bookings growth turns negative while QAU, QPU, and bookings per payer also

decline, particularly if management continues heavy launch or esports spending. In that configuration, revenue recognition may delay the visible damage but cannot reverse it.

The base-versus-bull signal is different. Merely stabilizing Free Fire is already embedded in base. Bull needs disclosed evidence that an incremental title retains users beyond launch and contributes meaningful bookings without destroying segment margin. Downloads, pre-registrations, social views, or chart rank are insufficient alone. A valid upgrade would combine sustained cohort retention, payer conversion, repeat content engagement, and a clear contribution to aggregate bookings that cannot be explained by Free Fire seasonality.

Because title economics are opaque, management discipline matters. Garena should be willing to stop weak projects rather than defend sunk cost, while continuing to fund proven live services. Conversely, cutting all pipeline spending would protect near-term margin but leave concentration unresolved. The favorable path is selective experimentation with hard retention gates. The model's terminal margins implicitly assume this discipline in base and bull; bear assumes costs linger despite weak results.

The segment remains economically valuable even in bear, but that is not the same as durable compounding. Digital franchises can harvest cash for years after growth breaks, and deferred revenue can make the decline look orderly. The Gideon question is whether Garena can renew its earning power while protecting player trust. Current evidence supports a profitable franchise and meaningful option value, but not certainty that a second durable engine exists.

Summary

Case	Segment TTM+5y revenue	Exact profit metric	Segment TTM+5y margin	Segment TTM+5y profit	Probability
Bear	US$1.640574bn	Operating segment income (loss)	28.00%	US$0.459361bn	40%
Base	US$3.407040bn	Operating segment income (loss)	44.00%	US$1.499098bn	50%
Bull	US$5.765256bn	Operating segment income (loss)	46.00%	US$2.652018bn	10%

Garena is a high-margin but concentrated profit pool. Base does not assume another Free Fire or credit unsupported pipeline dollars: it assumes stable aggregate engagement, modest payer improvement, and ongoing pipeline cost. The 40% bear weight reflects historical cyclicality, opacity, bookings deceleration, and deferral masking. The 10% bull requires simultaneous engagement, conversion, spend, and new-title success, counted once through aggregate KPIs. That asymmetry is appropriate for a hit-driven franchise; current margin is not a perpetual annuity.

Appendix B4 - Other Services

Sea Limited — Other Services Segment Deep Dive

Production ER2 run: `pulse-cio-20260825T060138+0800` **Information cutoff:** 2026-08-25 06:01:38 SGT **TTM anchor:** Q3 2025 + Q4 2025 + Q1 2026 + Q2 2026, ended 2026-06-30 **Exact five-year horizon:** 2031-06-30 **Currency:** US dollars; figures are US$ millions unless stated otherwise **Exact sealed profit basis:** `Operating segment income (loss)` **Authority boundary:** Research evidence only. No trade, portfolio, ranking, sizing, messaging, or execution authority. `trade_execution_authorized=false`.

0. Segment boundary and taxonomy note

Other Services is Sea Limited's residual reportable segment for activities that fall below the quantitative thresholds of Shopee, Monee, and Garena. The current projection taxonomy is the QFR-sealed four-segment view: Shopee, Monee, Garena, and Other Services. The segment label and its economic continuity are stable across the five annual observations in the DR-cleared data package, although the issuer's broader business naming shifted during 2025 when SeaMoney became Monee. The important boundary issue is not that rebrand. It is the difference between revenue nature and profit-segment classification. “Sales of goods” is a revenue nature, not a separate reportable profit segment; the issuer assigns a small part of it to Other Services and most, but not necessarily all, of it to Shopee. This appendix therefore models the disclosed Other Services segment total and does not mechanically allocate consolidated sales of goods.

The segment is both small and heterogeneous. FY2025 segment revenue was only US$173.5 million, 0.8% of Sea's US$22.94 billion consolidated revenue, yet its FY2025 `Operating segment income (loss)` was a US$90.5 million loss [data package §1 and §3a; FY2025 Form 20-F segment table and FY2025 results Exhibit 99.1, source IDs S20F and SQ4]. The TTM loss widened to US$147.611 million [data package §3a; QFR-sealed `statutory_bridge.json`, source ID `official_ttm_reconciliation`]. Because the data package does not identify the constituent businesses, their individual revenue, or their individual costs, apparent numerical precision would be false. The forecast is therefore a constrained one-line segment model. It uses only the issuer-disclosed segment boundary, shows the small disclosed service-versus-goods distinction as context, and assigns deliberately wide scenario bands to growth and profitability.

1. What this segment actually is

The most accurate description is also the least satisfying: Other Services is a reporting bucket for operations that do not meet Sea's reportable-segment thresholds. The data package does not give the names of the constituent activities, customer types, pricing contracts, sales channels, or individual product economics. It also does not establish that the same micro-businesses contribute the same proportions from one year to the next. That absence is economically meaningful. An investor cannot treat the segment as a coherent fourth platform comparable with Shopee, Monee, or Garena.

The disclosed revenue composition provides only two useful facts. First, Sea reports an “Other Services revenue” line at the service-revenue level. That line was US$125.8 million in FY2023, US$120.7 million in FY2024, and US$166.8 million in FY2025 [data package §4; FY2023-FY2025 Form 20-F revenue-nature tables, source IDs S20F-H and S20F]. Second, the issuer's reportable-segment total was US$131 million, US$126 million, and US$173 million in those same years [data package §3; FY2023-FY2025 Form 20-F segment tables, source IDs S20F-H and S20F]. The FY2025 difference is approximately US$6.7 million, or 3.9% of the segment total, and represents the segment's small allocation of the sales-of-goods revenue nature. That arithmetic is a classification bridge, not evidence that sales of goods is a stable sub-business with its own forecastable growth rate or margin.

For Q2 2026, the distinction is exact: Other Services service revenue was US$48.759 million, while Other Services segment revenue was US$50.769 million. The US$2.010 million difference demonstrates that some sales of goods was assigned to Other Services in that quarter [data package §1; Q2 2026 results Exhibit 99.1, source ID SQ2]. It simultaneously proves why assigning all US$657.726 million of Q2 sales of goods to Shopee would be wrong. It does not prove that the US$2.010 million Q2 relationship should be extrapolated over the TTM or compounded for five years. This appendix does not do that.

The customer, pricing, and go-to-market model cannot be stated product by product from the cleared evidence. At the combined segment level, revenue could plausibly include service fees and a small amount of goods revenue, but the issuer has not supplied the information needed to determine whether those revenues are recurring, transactional, project-based, consumer-facing, enterprise-facing, internally adjacent to the core platforms, or subject to different geographic economics. `[DATA GAP: The DR-cleared package does not disclose the constituent Other Services`

businesses, customers, pricing models, go-to-market channels, or product-level revenue.]

This matters for the forecast method. A normal segment model would project units, price, retention, and mix. Here, none of those drivers is available. The only defensible method is a top-down range anchored to disclosed segment revenue and constrained by the observed volatility, while treating margin recovery as a separate managerial choice rather than an automatic consequence of revenue growth. The segment is best regarded as a bridge segment whose economic value is uncertain and whose losses must remain in the consolidated rollup until management either scales, sells, closes, or reclassifies the underlying activities.

2. Current economics

2.1 Revenue and growth

FY2025 Other Services segment revenue was US$173.5 million, up 37.3% from the US$126.0 million FY2024 segment total; the separate FY2024 service-revenue-nature figure was US$120.7 million and is not the growth denominator [data package §3-§4; FY2024 and FY2025 Form 20-F segment and revenue-nature tables, source IDs S20F-H and S20F]. The five-year annual segment history is volatile: US$42 million in FY2021, US$62 million in FY2022, US$131 million in FY2023, US$126 million in FY2024, and US$173 million in FY2025, with growth of 45.8%, 112.2%, negative 3.8%, and 37.3%, respectively [data package §3; FY2021-FY2025 Form 20-F segment tables, source IDs S20F-H and S20F]. That sequence is not a stable base rate. It is consistent with a changing residual bucket, small-denominator effects, uneven launch or wind-down activity, or reclassification effects within the issuer-defined boundary. The data package confirms continuity of the reportable segment but does not reveal the internal mix needed to distinguish those explanations.

The last four reported quarters show segment revenue of approximately US$48 million, US$44 million, US$45 million, and US$51 million for Q3 2025 through Q2 2026 [data package §5; Q3 2025 through Q2 2026 results Exhibits 99.1, source IDs SQ3, SQ4, SQ1, and SQ2]. Their rounded sum is the required US$188.0 million TTM revenue anchor used in this appendix. Because the quarterly figures are rounded in the data package, all forward revenue results are displayed to the nearest US$0.1 million and should not be interpreted as issuer guidance or accounting precision. The data package does not state Q2 2026 year-on-year growth for Other Services. [DATA GAP: Latest-quarter Other Services revenue growth is not separately stated in data_package.md §5.]

2.2 Exact segment-profit economics

The profit basis is `Operating segment income (loss)`, exactly as sealed in `statutory_bridge.json`. FY2025 Other Services `Operating segment income (loss)` was negative US$90.537 million, equivalent to a negative 52.2% margin on FY2025 segment revenue [data package §3a; FY2025 results Exhibit 99.1, source ID `sec_fy2025_release`]. The TTM loss was negative US$147.611 million [data package §3a; QFR-sealed `statutory_bridge.json`, source ID `official_ttm_reconciliation`]. Against the required US$188.0 million TTM revenue anchor, that is a negative 78.5% margin; the negative sign consistently denotes a loss.

The quarterly direction is worse than the FY2025 annual result suggests. Other Services `Operating segment income (loss)` margins were negative 55.90% in Q3 2025, negative 82.90% in Q4 2025, negative 70.97% in Q1 2026, and negative 101.39% in Q2 2026 [data package §5; Q3 2025 through Q2 2026 results Exhibits 99.1, source IDs SQ3, SQ4, SQ1, and SQ2]. In Q2, the segment lost slightly more than one dollar on the exact segment-profit basis for each dollar of revenue. This is not a low-margin adjacency awaiting a small amount of operating leverage. It is a deeply loss-making collection whose cost base, investment intensity, or start-up burden materially exceeds current revenue.

The loss is small relative to Sea's total revenue, but not immaterial to the operating bridge. Other Services contributed negative US$147.611 million of the US$2.884743 billion sum of TTM reportable-segment profit, before US$600.244 million of unallocated expenses reduced the total to US$2.284499 billion of statutory operating income [data package §3a; QFR-sealed `statutory_bridge.json`, source ID `official_ttm_reconciliation`]. Corporate and unallocated expenses are not part of this segment and are not pushed into this forecast. Conversely, this segment's loss cannot be dropped merely because its revenue share is below 1%.

2.3 Capital intensity and disclosed operating indicators

No segment-specific capital expenditure, assets, leases, headcount, working capital, customer count, volumes, utilization, retention, or backlog is disclosed in the data package. The consolidated company had FY2025 cash PPE capex of US$513.8 million [data package §2 and §7; FY2025 Form 20-F cash-flow statement, source ID S20F], but allocating any of it to Other Services would be invented. Similarly, Sea's total R&D, fulfillment leases, credit assets, or platform infrastructure cannot be

assigned to this segment without issuer evidence. [DATA GAP: No segment-specific capital intensity, asset, headcount, unit-volume, customer, retention, or utilization data is disclosed for Other Services.]

That leaves one robust current-economic conclusion: the segment consumes earnings. Its TTM absolute loss widened despite a moderate increase in the rounded revenue anchor versus FY2025. The operating structure therefore has either high fixed costs, substantial launch or investment spending, low gross margins, or a changing mix of activities; the disclosed evidence does not distinguish them. Any claim that revenue growth alone will fix the margin would be unsupported.

3. Unit economics

3.1 What can be inferred safely

At a combined level, the segment generates service revenue and a small amount of allocated sales-of-goods revenue. A service line can in principle carry attractive incremental margins if it is software-like or platform-like, while sales of goods ordinarily carries inventory, fulfillment, shrinkage, and working-capital requirements. But those generic patterns cannot be assigned to Sea's undisclosed components. The safe inference is narrower: FY2025 service revenue accounted for roughly 96% of the disclosed Other Services segment total, so the disclosed sales-of-goods allocation was too small to explain the entire negative 52.2% FY2025 margin by itself.

The large loss must therefore sit mainly in the broader cost structure surrounding the segment, although the package does not identify whether that burden is cost of revenue, sales and marketing, R&D, general and administrative expense, or another segment-level allocation. The deterioration from negative 55.9% in Q3 2025 to negative 101.4% in Q2 2026 shows that incremental quarterly revenue did not translate into visible operating leverage. Revenue moved from roughly US$48 million to US$51 million across those two points while the margin worsened by about 4,549 basis points. Because these are non-adjacent quarters and the component mix is unknown, this is not a clean incremental-margin calculation. It is nevertheless strong evidence against assuming a smooth scale curve.

3.2 Cost drivers that could move the margin

There are four economically distinct paths, each requiring different evidence before an investor should capitalize it.

First, a fixed-cost absorption path would require a stable underlying product, rising revenue, and largely fixed engineering, compliance, or administrative costs. Under that mechanism, revenue growth could lift margin rapidly. The historical evidence does not yet show it: TTM loss widened and quarterly margins remained severely negative.

Second, a portfolio-rationalization path would involve discontinuing weak experiments, reducing headcount or marketing, consolidating infrastructure, or moving an activity into a core platform. That could improve profit even if revenue shrinks. This is the primary base-case margin mechanism because it does not require the residual bucket to become a major franchise. It does require management action, and no segment-specific action plan is disclosed.

Third, a product-market-fit path would require one undisclosed activity to scale and become a durable service business. That is the bull mechanism. It could produce both stronger growth and margin recovery, but the absence of product names, customer KPIs, or guidance makes the probability low. The bull case is not built by extending the FY2023 112.2% segment growth rate. It is built as an explicit, low-probability emergence case.

Fourth, a persistent-incubation path would keep the segment structurally loss-making because Sea continually adds new experiments as older ones mature or close. In that structure, successful activities might graduate into core segments while failures remain in Other Services, creating adverse selection in the bucket. This is the bear mechanism. It explains why a residual segment can keep losing money even when individual experiments occasionally work.

3.3 Margin guardrails

The model does not assign a product-level gross margin because none is disclosed. It also does not treat the segment's sales-of-goods allocation as a low-margin sub-product with a separately forecastable cost base. Instead, the horizon `Operating segment income (loss)` margins span negative 90% in bear, negative 20% in base, and positive 5% in bull. These are scenario outcomes, not point estimates. The range is intentionally wide because the TTM starting margin is negative 78.5% and the internal economics are opaque.

The base case assumes meaningful cost rationalization but not economic proof of a moat. The bull case requires both a scaled adjacency and disciplined expense control. The bear case assumes the residual bucket remains an incubator or

clean-up pool with recurring fixed costs. None of the cases assumes corporate or unallocated expenses are moved into or out of the segment; those are modeled once at consolidation.

4. Competitive dynamics

The competitive set cannot be named responsibly from the DR-cleared company evidence because the underlying businesses are not disclosed. Naming e-commerce marketplaces, digital lenders, gaming publishers, logistics operators, or software vendors as direct competitors would risk assigning Other Services activities that may actually belong to Shopee, Monee, Garena, or something else. This appendix therefore separates what is knowable from what is merely possible.

At the reporting-bucket level, Other Services competes for internal capital and management attention against Sea's three scaled platforms. Shopee, Monee, and Garena all have disclosed customers, operating KPIs, and identifiable economic roles. Other Services does not. To keep receiving investment, an activity in the bucket must either strengthen a core ecosystem, prove standalone product-market fit, create strategic option value, or meet a regulatory or operational need. Otherwise, its opportunity cost rises as Sea has more profitable places to deploy people and capital.

External market competition is likely heterogeneous by component. A consumer-facing experiment could face low switching costs and aggressive customer-acquisition spending. An enterprise or infrastructure service could face incumbents with scale, distribution, and installed-base advantages. A commerce-adjacent service could benefit from Sea's regional ecosystem but still compete against specialized providers. A goods activity could face price transparency and weak differentiation. These are scenario categories, not assertions about the actual portfolio.

Pricing power is unproven. The volatile revenue history and deep losses offer no evidence that the segment can raise price without losing customers, nor that it has recurring contracts, network effects, proprietary content, regulated scarcity, or high switching costs. The lack of product disclosure also prevents a market-share estimate. `[DATA GAP: No Other Services product list, competitor set, market-share series, pricing metric, retention metric, or customer-concentration disclosure is available in the DR-cleared package.]`

The most relevant entry barrier may be Sea's shared ecosystem: regional consumer reach, merchant relationships, payments capability, gaming engagement, data, and technical infrastructure. Yet this potential advantage belongs principally to the core platforms unless management demonstrates that an Other Services activity has privileged access and can monetize it independently. Ecosystem proximity is not automatically a moat. It may reduce launch costs, but it can also hide subsidy and transfer economics.

Substitution risk is correspondingly high and hard to quantify. Undifferentiated services can be replaced by internal tools, third-party software, local specialists, or new AI-enabled workflows. Goods offerings can be substituted by marketplace sellers or direct brands. A strategically necessary activity may be internalized into Shopee, Monee, or Garena, causing Other Services revenue to disappear without destroying consolidated value. This is why segment revenue decline and consolidated value destruction are not synonymous. A wind-down that eliminates losses could be economically favorable even while this appendix's revenue forecast falls.

5. Moat at the segment level

The evidence does not support a segment-level moat today. A moat requires a defensible mechanism that protects returns: network effects, switching costs, brand, scale economics, proprietary assets, regulation, cost advantage, or scarce distribution. Other Services has no disclosed product-level return, retention, customer, market-share, or unit-economics evidence. Its negative TTM margin also means there is no protected profit pool to defend.

Potential shared advantages exist. Sea can provide distribution through large regional platforms, payments integration through Monee, digital engagement through Garena, and merchant or consumer touchpoints through Shopee. Those assets could help incubate adjacent services more cheaply than a standalone start-up. They could also let Sea test products across Southeast Asia, Taiwan, Brazil, and other markets. But the appendix does not credit those advantages as durable Other Services economics until a constituent activity is identified and its independent monetization is shown.

The five-to-ten-year moat assessment is therefore **unproven and weak**. The bull case allows for one activity to establish a modest moat, reflected in positive but only 5% horizon `Operating segment income (loss)` margin. It does not award mature-platform margins. The base case assumes better discipline without a moat and remains loss-making. The bear case assumes a structurally adverse-selection bucket whose successful activities migrate elsewhere while costs remain.

This treatment prevents a common conglomerate error: attributing the parent's strongest network effects to every residual activity. Sea may have meaningful group-level advantages, but Other Services should not receive a valuation premium merely because it sits beside Shopee, Monee, and Garena. Until management provides composition, KPIs, and economics, the appropriate underwriting stance is to recognize the loss in full and assign no standalone terminal franchise value in this segment appendix.

6. Historical growth rates

The table reproduces only rows supported by the DR-cleared data package. “FY-3,” “FY-2,” and “FY-1” mean FY2023, FY2024, and FY2025. Because three annual observations contain only two compounding intervals, the column labeled “3-year historical CAGR” is the CAGR across the three-year observation window, calculated over two years. Each revenue cell points to the controlling row. No historical dollars are back-solved.

Product / sub-segment	FY2023 revenue	FY2024 revenue	FY2025 revenue	3-year historical CAGR	Most recent disclosed YoY	Data-package cite
Other Services segment total	US$131.0m [data package §3; FY2023 Form 20-F segment table, S20F-H]	US$126.0m [data package §3; FY2024 Form 20-F segment table, S20F-H]	US$173.5m [data package §1 and §3; FY2025 Form 20-F segment table, S20F]	15.1% [calculated from cited rows]	37.3% [data package §3; S20F]	FY2023-FY2025 Form 20-F segment tables, S20F-H/S20F
Other Services service revenue nature	US$125.8m [data package §4; FY2023 Form 20-F revenue table, S20F-H]	US$120.7m [data package §4; FY2024 Form 20-F revenue table, S20F-H]	US$166.8m [data package §4; FY2025 Form 20-F revenue table, S20F]	15.1% [calculated from cited rows]	38.2% [calculated from cited rows]	FY2023-FY2025 Form 20-F revenue-nature tables, S20F-H/S20F
Sales of goods allocated to Other Services	Not separately disclosed [data package §4; FY2023 Form 20-F revenue table, S20F-H]	Not separately disclosed [data package §4; FY2024 Form 20-F revenue table, S20F-H]	Approximately US$6.7m as segment-total less service revenue [data package §3-§4; FY2025 Form 20-F, S20F]	Not meaningful	Not separately disclosed	Classification difference only; S20F-H/S20F

The annual arithmetic checks pass within the required 2% tolerance. For segment total, US$131.0 million × 0.962 = US$126.0 million, and US$126.0 million × 1.373 = US$173.0 million versus the US$173.5 million exact FY2025 row, a 0.3% rounding difference. For service revenue, US$125.8 million × 0.959 = US$120.7 million, and US$120.7 million × 1.382 = US$166.8 million. The FY2025 allocated-sales-of-goods figure is not a back-solved operating product; it is the contemporaneous difference between two issuer classification totals and is used only to demonstrate the taxonomy.

For completeness, the five-year segment-total record is US$42 million, US$62 million, US$131 million, US$126 million, and US$173 million from FY2021 through FY2025, with year-on-year growth of 45.8%, 112.2%, negative 3.8%, and 37.3% after FY2021 [data package §3; FY2021-FY2025 Form 20-F segment tables, source IDs S20F-H and S20F]. This volatility is the central historical finding. A 15.1% observation-window CAGR conceals a doubling, a contraction, and a rebound. It is not used mechanically as the five-year base forecast.

The four-quarter sequence is approximately US$48 million, US$44 million, US$45 million, and US$51 million for Q3 2025 through Q2 2026 [data package §5; Q3 2025 through Q2 2026 results Exhibits 99.1, source IDs SQ3, SQ4, SQ1, and SQ2]. That totals the required US$188.0 million TTM anchor. The quarter-to-quarter path is also uneven, and the data package does not provide a comparable year-on-year rate for the latest quarter. Consequently, the model uses an explicit annual cadence rather than a single extrapolation of FY2025 growth.

7. Management guidance

The data package's management-commentary section contains separate tables for Shopee, Monee, and Garena but no Other Services table, quote, revenue target, profit target, product roadmap, or cost-rationalization commitment. There is therefore no segment-specific management guidance to reproduce verbatim. `[DATA GAP: data_package.md §6 contains no management quote or FY+1 guidance for Other Services.]`

This absence is not filled with company-wide guidance. Shopee's GMV objective, Monee's long-term profit commentary, and Garena's double-digit growth outlook belong to those named segments and cannot be assigned to Other Services. Similarly, consolidated cost discipline or AI partnerships do not identify the segment incidence or economics. The base case therefore sits below the volatile recent historical growth rate and assumes only gradual loss reduction; it does not encode an unstated management promise.

The monitoring standard is straightforward. Management evidence would improve if Sea disclosed the segment's constituent activities, explained why TTM losses widened, supplied product KPIs, or announced a specific rationalization. Absent that, forecast confidence remains low. A future reclassification into a core segment would need a clean bridge so that apparent

growth or margin improvement is not mistaken for organic progress.

8. Forward growth assumptions

The forecast compounds exactly five calendar years from the TTM ended 2026-06-30 to 2031-06-30. The starting revenue is the rounded US$188.0 million sum of the four quarterly segment-revenue observations in data package §5. The model uses one combined segment line because a separate TTM service-revenue series and TTM allocated-sales-of-goods series are not provided. The annual path, not the displayed effective CAGR alone, drives each horizon value.

Base case

Product / modeled line	3-year historical CAGR	Latest YoY	Mgmt FY+1 guide	Base CAGR TTM→TTM+5y	Justification
Other Services combined issuer segment boundary	15.1%	Not disclosed for Q2 2026	None	9.96%	Growth decelerates from a volatile FY2025 rebound because composition and customer drivers are undisclosed; modest adjacency expansion is offset by rationalization and no credited pricing power.

The base annual growth cadence is 14%, 12%, 10%, 8%, and 6%. This produces revenue of US$214.3 million, US$240.0 million, US$264.0 million, US$285.2 million, and US$302.3 million. The cadence is deliberately below FY2025's 37.3% growth but near the three-observation 15.1% historical CAGR at the start, then decelerates as the segment remains small and opaque. The mechanism is not market saturation in a known product. It is portfolio maturation plus selective wind-downs, with no assumption that the FY2023 doubling repeats.

Bull case

Product / modeled line	3-year historical CAGR	Latest YoY	Mgmt FY+1 guide	Bull CAGR TTM→TTM+5y	Justification
Other Services combined issuer segment boundary	15.1%	Not disclosed for Q2 2026	None	16.90%	One adjacency achieves product-market fit and leverages Sea's ecosystem; growth starts above the historical observation-window CAGR but decelerates as scale rises and no perpetual breakout is assumed.

The bull annual growth cadence is 24%, 20%, 17%, 14%, and 10%. Revenue reaches US$233.1 million, US$279.7 million, US$327.3 million, US$373.1 million, and US$410.4 million. The bull mechanism is qualitatively different from the base case: it requires a constituent activity to become a real product rather than merely retaining the residual portfolio. Even then, growth decelerates each year and the case is assigned only a 15% probability because the current package contains no product KPI or management guide that confirms the path.

Bear case

Product / modeled line	3-year historical CAGR	Latest YoY	Mgmt FY+1 guide	Bear CAGR TTM→TTM+5y	Justification
Other Services combined issuer segment boundary	15.1%	Not disclosed for Q2 2026	None	-1.86%	Early growth fades as experiments are wound down or absorbed into core segments; revenue contraction does not eliminate fixed costs because the residual bucket remains an incubation and clean-up pool.

The bear annual cadence is 4%, 0%, negative 3%, negative 5%, and negative 5%. Revenue is US$195.5 million, US$195.5 million, US$189.7 million, US$180.2 million, and US$171.2 million. This is not simply a lower version of the base case. The mechanism is portfolio failure or migration: successful activities may be reclassified into core segments, while unscaled operations and stranded costs remain. Segment revenue falls below the TTM anchor even if some underlying activity benefits the group elsewhere.

Growth precision constraint

These trajectories are scenario scaffolds, not point forecasts. The TTM starting revenue itself is based on rounded quarterly values in the cleared package. The constituent mix is undisclosed, the latest year-on-year growth rate is absent, and no external total addressable market can be mapped without inventing product identity. The forecast therefore rounds horizon revenue to US$0.1 million but economic interpretation should use ranges: roughly US$170 million in bear, US$300 million in base, and US$410 million in bull.

9. Forward `Operating segment income (loss)` margin assumptions

The exact metric in every table is `Operating segment income (loss)`. The starting TTM margin is negative 78.5%, calculated from negative US$147.611 million of sealed TTM segment loss and the rounded US$188.0 million TTM revenue anchor. No corporate or unallocated expense is inserted here.

Case	TTM margin	2027-06-30	2028-06-30	2029-06-30	2030-06-30	2031-06-30 margin	Specific mechanism
Bear	-78.5%	-80.0%	-82.0%	-85.0%	-88.0%	-90.0%	Revenue wind-down leaves stranded engineering, compliance, launch, or support costs; recurring incubation spending prevents exit from the loss pool.
Base	-78.5%	-65.0%	-52.0%	-40.0%	-29.0%	-20.0%	Portfolio pruning and shared-infrastructure leverage reduce loss intensity, but no proven moat or product P&L supports breakeven.
Bull	-78.5%	-58.0%	-34.0%	-15.0%	0.0%	5.0%	One scaled service adjacency reaches product-market fit while management closes weaker experiments; positive margin remains modest.

Every scenario moves more than 100 basis points from the current margin, so the mechanisms must be explicit. In bear, the absolute loss remains around US$154.0 million at the horizon despite lower revenue because fixed costs and renewed experiments keep the margin near negative 90%. In base, the loss falls to US$60.5 million because management rationalizes the portfolio and spreads shared expenses over a somewhat larger revenue base; the segment still does not prove standalone economics. In bull, the loss narrows rapidly and reaches a US$20.5 million profit at a 5% margin only after a product-market-fit event plus active pruning.

The base case does not extrapolate the margin from negative 101.4% in Q2 2026 because one quarter may contain mix or timing effects, but neither does it ignore that deterioration. The TTM negative 78.5% margin is the anchor. The bull case is intentionally capped at a modest positive margin; without a disclosed product mix, there is no basis for assigning Shopee-like platform economics, Monee-like credit profitability, or Garena-like digital-content margins.

No product-level margin table is presented because no product P&L exists. Creating separate margins for Other Services service revenue and allocated sales of goods would require allocating segment costs across revenue natures without issuer evidence. That would violate the statutory boundary rather than improve precision.

10. Segment rollup

Revenue rollup from the exact TTM anchor

Case	TTM 2026-06-30	Year 1	Year 2	Year 3	Year 4	TTM+5y 2031-06-30	Five-year factor	Effective CAGR
Bear	US$188.0m	US$195.5m	US$195.5m	US$189.7m	US$180.2m	US$171.2m	0.9104x	-1.86%
Base	US$188.0m	US$214.3m	US$240.0m	US$264.0m	US$285.2m	US$302.3m	1.6078x	9.96%
Bull	US$188.0m	US$233.1m	US$279.7m	US$327.3m	US$373.1m	US$410.4m	2.1832x	16.90%

Each row compounds over exactly five one-year intervals ending 2031-06-30. The arithmetic uses unrounded values: Bear `188.0 × 1.04 × 1.00 × 0.97 × 0.95 × 0.95 = 171.1631`; Base `188.0 × 1.14 × 1.12 × 1.10 × 1.08 ×`

`1.06 = 302.2756`; Bull `188.0 × 1.24 × 1.20 × 1.17 × 1.14 × 1.10 = 410.4348`. Display rounding does not change the model.

Horizon `Operating segment income (loss)` **rollup**

Case	Modeled product lines	TTM+5y segment revenue	Exact profit metric	TTM+5y margin	TTM+5y segment profit	Rollup residual
Bear	1	US$171.2m	Operating segment income (loss)	-90.0%	-US$154.0m	0.0%
Base	1	US$302.3m	Operating segment income (loss)	-20.0%	-US$60.5m	0.0%
Bull	1	US$410.4m	Operating segment income (loss)	5.0%	US$20.5m	0.0%

The single modeled line equals the issuer's combined Other Services segment boundary, so product revenue sums to segment revenue exactly and the revenue-weighted margin equals the segment margin exactly. All three rollups reconcile within 1%; the residual is zero before presentation rounding. Profit arithmetic is Bear `171.1631 × -90.0% = -154.0468`, Base `302.2756 × -20.0% = -60.4551`, and Bull `410.4348 × 5.0% = 20.5217`.

This one-line rollup is a deliberate control. A two-line service-and-goods model would look more granular but would require an unsupported TTM allocation and unsupported cost split. The Q2 2026 US$2.010 million classification difference is useful evidence that Other Services contains some sales of goods; it is not a license to project a five-year goods business. The consolidated synthesis should take the segment totals above and model unallocated expenses separately from data package §3a.

Probability framework

Probabilities are nonuniform: 35% bear, 50% base, and 15% bull. The higher bear weight reflects the segment's negative TTM margin, missing product disclosure, absent management guidance, and deterioration to a negative 101.4% Q2 margin. Base remains the largest single outcome because Sea has the option to rationalize a small portfolio over five years. Bull is lowest because it requires positive evidence not yet present: a disclosed scaled product plus cost discipline.

The probability-weighted horizon revenue is approximately US$272.6 million, and probability-weighted horizon `Operating segment income (loss)` is approximately negative US$81.1 million. Those figures are diagnostics, not an additional scenario. They also demonstrate that even a positive bull outcome does not erase the expected loss given the current evidence and probability distribution.

11. Key risks and wildcards

Bear — adverse selection within the residual bucket. Successful activities may be transferred into Shopee, Monee, or Garena while failures and stranded costs remain in Other Services. That could keep the segment structurally loss-making even if Sea's consolidated innovation program creates value. The segment's reported history would then understate the success of incubated products and overstate the persistence of losses, but the statutory loss still matters until reclassified or removed.

Bear — cost opacity. The data package does not disclose whether the loss is driven by gross margin, R&D, marketing, compliance, support, or other allocations. A cost base that is contractual, regulated, or people-intensive may not fall with revenue. The bear horizon therefore holds the absolute loss near the TTM level despite revenue contraction.

Bear — recurring experimentation. Sea may choose to use the bucket as a permanent incubator. Each generation of projects could replace the previous one, preventing operating leverage even if individual projects mature. This is strategically defensible at the group level but economically negative at the segment level.

Base — rationalization execution. The base case requires management to prune weak activities and share infrastructure without disrupting strategically valuable capabilities. If there is no visible margin improvement by the next annual reporting cycle, the path to negative 20% by 2031 becomes less credible.

Base — taxonomy and reclassification. Changes in which activities fall below reportable thresholds can move revenue and losses without an economic change. Any future restatement must be bridged to prior periods. Growth and margin comparisons should use restated history only when the issuer supplies it.

Base — sales-of-goods misallocation. Treating all sales of goods as Shopee would understate Other Services revenue and corrupt segment margin. Conversely, projecting consolidated sales-of-goods growth into this segment would overstate Other Services. The issuer's segment table, not the revenue-nature table, must control the rollup.

Bull — disclosed product-market fit. The largest upside wildcard is that one current activity becomes a scaled adjacency with measurable customers, retention, and contribution economics. Evidence would include product identity, recurring or transactional volume, improving cohort economics, and a clear segment-profit bridge. The bull case should not be upgraded merely because aggregate revenue rises.

Bull — ecosystem distribution. A new service could use Sea's existing consumer, merchant, payment, or digital-entertainment reach to reduce acquisition cost. This could accelerate growth and margin improvement. The test is whether the activity earns returns after fully counting shared infrastructure and incentives rather than relying on hidden subsidy.

All cases — technology substitution. AI-enabled tooling, third-party platforms, or internalization by a core segment could reduce the need for a residual service. The economic result may range from value-destructive obsolescence to value-enhancing cost elimination. Segment revenue alone cannot distinguish the two.

All cases — disclosure risk. The chief underwriting risk is not simply missing detail; it is the possibility that the residual segment's composition changes faster than annual disclosure reveals. The appropriate response is not to manufacture detail but to keep a wide scenario range, a high bear probability, and explicit update triggers.

Monitoring triggers

The base case should be reviewed if any of the following occurs: annual `Operating segment income (loss)` worsens beyond the TTM negative US$147.6 million without a disclosed investment rationale; quarterly margin remains worse than negative 80% for four more quarters; the issuer materially changes the segment boundary without restated comparatives; or segment revenue rises while absolute losses fail to narrow. A constructive re-underwrite would require a named product, disclosed KPI series, credible cost-rationalization plan, or sustained margin improvement that is not caused solely by reclassification.

Summary

Case	Segment TTM+5y Revenue	Exact profit metric	Segment TTM+5y Profit Margin	Segment TTM+5y Profit	Probability
Bear	US$171.2m	Operating segment income (loss)	-90.0%	-US$154.0m	35%
Base	US$302.3m	Operating segment income (loss)	-20.0%	-US$60.5m	50%
Bull	US$410.4m	Operating segment income (loss)	5.0%	US$20.5m	15%

Other Services should remain in the consolidated model as a loss-bearing bridge segment, not be valued as a fourth platform and not be omitted as immaterial. The most defensible base case is continued revenue growth accompanied by substantial but incomplete cost rationalization. The bull case requires product evidence that does not yet exist; the bear case recognizes that a residual incubator can remain structurally loss-making. Across all cases, the disclosed segment total controls, sales of goods remains a revenue nature, and precision is intentionally constrained.

Appendix S - Synthesis (Combined Earnings Model)

Sea Limited — Synthesis (Combined Earnings Model)

Report ID: `SE-ER2-20260825T060138+0800` Run ID: `pulse-cio-20260825T060138+0800` Role: mechanical consolidation of the QFR/DR-sealed historical bridge and the four R-reviewed segment forecasts. This appendix has no trade, portfolio, ranking, sizing, or execution authority. `trade_execution_authorized=false`.

1. Anchors and gate status

- Today: 2026-08-25.
- Fiscal year end: December 31.
- TTM anchor: Q3 2025 + Q4 2025 + Q1 2026 + Q2 2026, ending 2026-06-30.
- Latest completed fiscal year used only for the historical sanity check: FY2025, ending 2025-12-31.
- Horizon: 2031-06-30, exactly 5.0 calendar years after the TTM end. No forecast row uses FY2025 as its compounding base and no row compounds across six fiscal years.
- Exact listed security: `XNYS:SE` American Depositary Share, each ADS representing one Class A ordinary share. Class B converts one-for-one and ranks on the same economic basis.
- Valuation price: USD 115.68 per ADS, raw NYSE close for 2026-08-24. The quote is a raw exchange close with raw-source SHA-256 `b669e9ca2dcd13fce183f17b57b0db271ab05ad0213757c9bfcba7218c89654b`.
- QFR-sealed quote-packet SHA-256: `c74da8bc0985413d450e6454e9e3f7ca08e79017629340dab48baff3e141b2dd`. Actionability expiry: `2026-08-26T04:00:00+08:00`.
- Financial reporting and quote currency: USD. Financial-statement share perimeter: Class A and Class B ordinary shares on a one-for-one economic basis. Listed security unit: ADS.
- Split bridge: 634,487,453 financial-basis diluted shares at 2026-06-30 × 1.0 split factor = 634,487,453 quote-basis diluted financial shares at the quote date. The SEC inventory through 2026-08-24 identifies no intervening split; the packet's split evidence SHA-256 is `8b229f313965d874e18ca0d333d00aa206531fbe94a79ce51b13bc72deebc274`.
- Listed-unit bridge: depositary ratio 1.0 × share-class factor 1.0 = 1.0 financial share per ADS; 634,487,453 quote-basis diluted financial shares ÷ 1.0 = 634,487,453 listed-equivalent ADS units.
- FX bridge: 1.0 USD quote currency per 1.0 USD reporting currency, identity conversion dated 2026-08-24.
- Official TTM diluted shares and EPS: 637,356,048 weighted diluted shares and USD 2.569759878 per ADS. These are the QFR-verified TTM earnings denominator, distinct from the packet's H1 starting share basis used in the forward share path.
- Historical bridge: `Operating segment income (loss)` is the exact common segment-profit label. The statutory packet SHA-256 is `0ab960edaa262fb4fc1f2090d6e90a17ea720d6dfd6d92be220fab8d211bc271`.
- Validator status at 2026-08-25T08:25:49+08:00: `QUOTE_PACKET_VALID` and `STATUTORY_BRIDGE_VALID`, with exact-byte hashes matching the sealed anchors. `gate_manifest.json` records `STATUTORY BRIDGE VERIFIED — CLEARED FOR FORECASTING` and `DATA PACKAGE VERIFIED — CLEARED FOR WAVE 2`.
- Qualitative gates remain binding evidence: Management is **FAIL**; Moat is **YELLOW**; the 2046 test is **YELLOW**. The arithmetic P/E screen below cannot overturn those gates or authorize an investment verdict.

Sea is not a property-and-casualty insurer or reinsurer. The P&C retained-economics lane is therefore **NOT TRIGGERED — issuer is not a P&C insurer or reinsurer**; no `insurer_return_bridge.json` is created.

2. Segment-level forward assumptions

All reviewed endpoints below are reproduced without re-derivation. The Shopee, Monee, Garena, and Other Services files have passed their R reviews and are the sole authority for segment endpoint revenue and `Operating segment income (loss)` margins. Values are USD billions unless stated otherwise.

Segment	Exact profit metric	TTM revenue	Bear TTM+5y revenue	Base TTM+5y revenue	Bull TTM+5y revenue	Bear margin	Base margin	Bull margin	Reviewed source
Shopee	Operating segment income (loss)	19.970569	30.505000	44.747000	58.697000	4.72%	10.70%	17.18%	`appendix_B_shopee.md` §§8-10
Monee	Operating segment income (loss)	4.766328	8.017671	9.639409	12.399799	9.71%	20.27%	25.08%	`appendix_B_monee.md` §§8-10
Garena	Operating segment income (loss)	2.797225	1.640574	3.407040	5.765256	28.00%	44.00%	46.00%	`appendix_B_garena.md` §§8-10
Other Services	Operating segment income (loss)	0.189038 statutory; 0.188000 analytical forecast base	0.171163	0.302276	0.410435	-90.00%	-20.00%	5.00%	`appendix_B_other_services.md` §§8-10

The 1.038 million difference between Other Services' statutory TTM revenue and its reviewed analytical forecast base is disclosed rounding, equal to 0.55% of the segment and 0.004% of consolidated TTM revenue. It is not a plug and does not change the exact statutory TTM tie-out. The reviewed endpoint profits preserved in the consolidation are Shopee 1.439000 / 4.790000 / 10.083000, Monee 0.778630 / 1.953575 / 3.109495, Garena 0.459361 / 1.499098 / 2.652018, and Other Services -0.154047 / -0.060455 / 0.020522 in Bear / Base / Bull order.

The segment economics are deliberately heterogeneous. Shopee is the largest revenue and profit-swing line, requiring monetization and logistics leverage from a thin TTM margin. Monee remains profitable in every case, but its margin reflects provisioning, funding, and credit seasoning rather than a software-style scale assumption. Garena's cases widen around franchise duration, user conversion, spend, and deferred-revenue mechanics. Other Services remains a separately visible loss in Bear and Base rather than being dropped as immaterial.

3. Combined revenue build

There are no corporate revenue eliminations in the QFR/DR-cleared segment bridge. The four statutory segment revenues sum exactly to consolidated revenue at FY2025 and TTM; the reviewed horizon endpoints therefore add directly.

Line	Bear	Base	Bull
Shopee TTM+5y revenue	30.505000	44.747000	58.697000
Monee TTM+5y revenue	8.017671	9.639409	12.399799
Garena TTM+5y revenue	1.640574	3.407040	5.765256
Other Services TTM+5y revenue	0.171163	0.302276	0.410435
Sum of segment TTM+5y revenue	40.334408	58.095725	77.272490
Corporate eliminations	0.000000	0.000000	0.000000
Combined TTM+5y revenue	**40.334408**	**58.095725**	**77.272490**
Implied TTM 2026-06-30 to 2031-06-30 CAGR	7.7871%	15.9472%	22.7542%

The CAGR denominator is exact consolidated TTM revenue of USD 27.723160 billion. Each result is `(horizon revenue / 27.723160)^(1/5) - 1`. No scenario uses probability-weighted segment endpoints inside an individual case; Bear combines all reviewed Bear endpoints, Base combines all Base endpoints, and Bull combines all Bull endpoints.

The dispersion is economically coherent. Bear still grows because Shopee and Monee retain structural digital-adoption tailwinds, but Garena contracts and Other Services is rationalized or migrates. Base assumes Shopee's current growth burst decelerates while monetization rises, Monee's loan and revenue growth normalize, Garena remains durable but mature, and Other Services loses less. Bull requires strong Shopee commerce and advertising execution, verified Monee underwriting and funding depth, and a broadened Garena audience at the same time.

4. Combined operating-income build

The consolidated forecast preserves the sealed accounting sequence: segment profit sum, then the exact corporate line `Unallocated expenses`, then statutory operating income. The statutory packet contains no additional operating bridge adjustments.

Line	Bear	Base	Bull
Shopee Operating segment income (loss)	1.439000	4.790000	10.083000
Monee Operating segment income (loss)	0.778630	1.953575	3.109495
Garena Operating segment income (loss)	0.459361	1.499098	2.652018
Other Services Operating segment income (loss)	-0.154047	-0.060455	0.020522
Sum of segment profit on sealed common metric	2.522944	8.182218	15.865035
Unallocated expenses	-0.875257	-0.871436	-0.927270
Consolidated Operating segment income (loss)	1.647688	7.310782	14.937765
Operating bridge adjustments	0.000000	0.000000	0.000000
Combined statutory TTM+5y operating income	**1.647688**	**7.310782**	**14.937765**
Implied statutory operating margin	4.0851%	12.5840%	19.3313%

`Unallocated expenses` are forecast as a percentage of consolidated revenue, consistent with `data_package.md` §3a. The TTM line was -2.17% of revenue versus -2.89% in FY2025. Bear holds the TTM burden at 2.17%, producing -0.875257 billion. Base assumes modest scale leverage to 1.50%, producing -0.871436 billion; in absolute dollars this is still 45% above the TTM -0.600244 billion. Bull assumes evidenced-but-not-frictionless leverage to 1.20%, producing -0.927270 billion; the absolute cost remains higher than Base because the revenue perimeter is much larger. These are explicit corporate assumptions, not costs allocated into segments.

The Base operating margin is not a simple weighted average of the four segment margins because unallocated expense is a real recurring deduction. Before that deduction, Base segment profit is 14.08% of revenue; after the -1.50% corporate burden, statutory operating margin is 12.58%. The same sequence prevents a sum-of-the-parts overstatement. No adjusted EBITDA, Garena deferred-revenue presentation change, interest income, tax, or equity-investee result is inserted into operating income.

5. Net income and EPS build

The sealed bridge carries one combined below-line label, `Non-operating income, net`. The upstream artifacts do not provide a forecast-ready split between interest, FX, investment marks, and debt-extinguishment effects. This synthesis therefore does not invent a classified split. The `Net interest` row remains included within the combined line, and the next row carries the full modeled amount on the exact sealed below-line perimeter.

Bear assigns zero to combined non-operating income: lower cash yield and adverse FX/investment effects offset net interest. Base uses USD 0.200 billion, below the TTM 0.250371 billion despite a larger operating business. Bull uses USD 0.250 billion, approximately the TTM amount and expressly does not capitalize one-off gains. These values are return-method inputs, not operating profit.

Line	Bear	Base	Bull
Combined statutory TTM+5y operating income	1.647688	7.310782	14.937765
Net interest income	Included in combined sealed line	Included in combined sealed line	Included in combined sealed line
Other income / `Non-operating income, net` on sealed combined basis	0.000000	0.200000	0.250000
Pretax income before equity investees	1.647688	7.510782	15.187765
Tax rate assumed	33.00%	30.00%	28.55%
Income tax expense	-0.543737	-2.253235	-4.336107

Line	Bear	Base	Bull
Share of results of equity investees, post-tax	-0.020000	-0.015000	0.000000
Total net income	1.083951	5.242547	10.851658
Net income attributable to NCI	-0.028578	-0.138219	-0.286102
Net income attributable to ordinary shareholders	**1.055372**	**5.104329**	**10.565556**
Quote-basis diluted financial shares at TTM+5y, millions	657.022203	641.427114	633.172653
EPS, USD per quote-basis financial share	1.606297	7.957769	16.686690
Financial shares per listed ADS	1.000000	1.000000	1.000000
EPS, USD reporting currency per ADS	1.606297	7.957769	16.686690
FX, USD quote currency per USD reporting currency	1.000000	1.000000	1.000000
EPS, USD quote currency per listed ADS at TTM+5y	**1.606297**	**7.957769**	**16.686690**

The tax assumptions follow the sealed driver ledger. Bear is at the TTM 32.95% rate rounded to 33.00%. Base sits between FY2025's 28.55% and the TTM rate at 30.00%. Bull reaches the FY2025 28.55% rate but does not assume a structurally lower rate without jurisdictional evidence. The post-tax equity-investee line remains a loss in Bear and Base and reaches zero, but not a gain, in Bull.

The NCI deduction uses the exact TTM relationship between total net income and attributable net income: `(1.682203 - 1.637852) / 1.682203 = 2.636483%`. That rate is held across scenarios because the upstream package does not supply a forecast-ready ownership schedule. This explicit proxy is preferable to treating total net income as ordinary-shareholder earnings. It also makes the P/E screen slightly more conservative.

The mandatory unit formulas reproduce as follows:

`EPS_REPORTING_PER_QUOTE_BASIS_FINANCIAL_SHARE = NI_ATTRIBUTABLE_REPORTING / QUOTE_BASIS_DILUTED_FINANCIAL_SHARES`

`EPS_QUOTE_PER_LISTED_UNIT = EPS_REPORTING_PER_QUOTE_BASIS_FINANCIAL_SHARE × 1.0 FINANCIAL_SHARE_PER_ADS × 1.0 USD_PER_USD`

5a. Return-method input bridge

Synthesis prepares inputs but does not select the primary shareholder-return method; that decision belongs to the subsequent valuation preflight and scorer. Normalized NOPAT uses statutory operating income and the scenario normalized cash-tax rate. Terminal capital-structure values are not plugged where the reviewed upstream package lacks a source-bound five-year path.

Return-method input	Current / TTM anchor	Bear 2031-06-30	Base 2031-06-30	Bull 2031-06-30	Treatment
Statutory operating income, USD bn	2.284499	1.647688	7.310782	14.937765	Reconciled synthesis
Normalized cash tax rate	32.95% TTM effective	33.00%	30.00%	28.55%	Driver ledger
Normalized NOPAT, USD bn	1.531757 diagnostic	1.103951	5.117547	10.673033	OI × one minus tax rate
Cash and non-operating financial assets	9.098856 cash plus short-term investments	Unavailable	Unavailable	Unavailable	No source-bound terminal path; restricted cash excluded
Restricted cash	2.462 Q2 2026	Unavailable	Unavailable	Unavailable	Not treated as excess liquidity
Gross debt excluding leases	2.220 Q2 2026	Unavailable	Unavailable	Unavailable	Borrowings plus convertibles; no terminal schedule
Lease liabilities	1.906 Q2 2026	Unavailable	Unavailable	Unavailable	Current plus non-current leases
Preferred equity	Not separately disclosed	Unavailable	Unavailable	Unavailable	No zero assumption inserted
Minority interest	TTM earnings deduction shown above	Unavailable	Unavailable	Unavailable	No terminal claim path in upstream package
Other senior claims	Not separately classified	Unavailable	Unavailable	Unavailable	No residual net-debt plug

Return-method input	Current / TTM anchor	Bear 2031-06-30	Base 2031-06-30	Bull 2031-06-30	Treatment
Separately valued non-operating assets	None assigned	None assigned	None assigned	None assigned	Prevents double counting
Diluted listed-equivalent shares, millions	634.487453 packet basis	657.022203	641.427114	633.172653	Section 6 path; one share per ADS

The current 9.098856 billion cash-and-short-term-investment figure equals 3.529303 plus 5.569553. Gross debt excluding leases equals 0.316 current borrowings + 0.908 non-current borrowings + 0.996 convertibles = 2.220; leases are 0.446 current + 1.460 non-current = 1.906. Because terminal cash, debt, leases, preferred claims, and NCI are unavailable on a source-bound scenario path, a controlling EV/NOPAT method would be incomplete. This finding does not block the fully reconciled EPS/P-E input set, and it does not authorize Synthesis to choose P/E as the subsequent primary method.

6. Share-count path

The forward path starts from the packet's 634.487453 million quote-basis diluted financial shares, not the 637.356048 million TTM weighted denominator and not an ADS-only shortcut. The split, depositary, class, and FX factors are all 1.0, but they remain visible.

TTM SBC was USD 560.556 million. Gross SBC issuance is approximated as SBC expense divided by the scenario's average financial-share price: USD 80 in Bear, USD 115.68 in Base, and USD 150 in Bull. Buybacks are USD 0.2 / 0.4 / 0.6 billion per year. The Base pace is below the roughly USD 599.7 million executed from Q4 2025 through Q2 2026 and requires program renewal beyond the remaining authorization; it is an analyst assumption, not management guidance. Bear preserves cash and absorbs more dilution. Bull generates more cash and retires more shares, but no case assumes that buybacks automatically erase SBC.

Case / year	Starting shares, m	Buyback, USD bn	Average price, USD	Shares retired, m	SBC issuance, m	Ending shares, m
Bear Y1	634.487453	0.200	80.00	2.500000	7.006950	638.994403
Bear Y2	638.994403	0.200	80.00	2.500000	7.006950	643.501353
Bear Y3	643.501353	0.200	80.00	2.500000	7.006950	648.008303
Bear Y4	648.008303	0.200	80.00	2.500000	7.006950	652.515253
Bear Y5	652.515253	0.200	80.00	2.500000	7.006950	657.022203
Base Y1	634.487453	0.400	115.68	3.457815	4.845747	635.875385
Base Y2	635.875385	0.400	115.68	3.457815	4.845747	637.263317
Base Y3	637.263317	0.400	115.68	3.457815	4.845747	638.651250
Base Y4	638.651250	0.400	115.68	3.457815	4.845747	640.039182
Base Y5	640.039182	0.400	115.68	3.457815	4.845747	641.427114
Bull Y1	634.487453	0.600	150.00	4.000000	3.737040	634.224493
Bull Y2	634.224493	0.600	150.00	4.000000	3.737040	633.961533
Bull Y3	633.961533	0.600	150.00	4.000000	3.737040	633.698573
Bull Y4	633.698573	0.600	150.00	4.000000	3.737040	633.435613
Bull Y5	633.435613	0.600	150.00	4.000000	3.737040	633.172653

Five-year reconciliation is exact before rounding: Bear `634.487453 + 5 × (7.006950 - 2.500000) = 657.022203`; Base `634.487453 + 5 × (4.845746888 - 3.457814661) = 641.427114`; Bull `634.487453 + 5 × (3.737040 - 4.000000) = 633.172653`. FY2024-to-FY2025 diluted weighted shares rose from 604.714 million to 638.227 million, far more than a simple SBC-expense/price estimate; conversion, issuance, and weighted-average timing make that historical movement non-comparable with a point forecast. The limitation is explicit and is a reason to retain share-count sensitivity rather than declare dilution solved.

7. Binary P/E 15 test

The required TTM+5y EPS at the sealed USD 115.68 ADS price is `115.68 / 15 = USD 7.712000`. Cushion is `(EPS × 15 - 115.68) / 115.68`. The Base case is the controlling confident case. The 15× multiple here is only the Gideon entry-price screen; it is not an exit multiple and does not select the security-return method.

Case	EPS, USD per ADS at 2031-06-30	EPS × 15	Quote-packet price per ADS	Cushion	Pass?
Bear	1.606297	24.094448	115.68	-79.17%	FAIL
Base	7.957769	119.366529	115.68	3.19%	PASS
Bull	16.686690	250.300351	115.68	116.37%	PASS

P/E 15 gate: PASS — cushion 3.19%. The pass is narrow: Base EPS exceeds the USD 7.712 required level by only USD 0.245769 per ADS. A 3% tax increase or a 5% share-count increase, shown in Section 10, moves EPS below the threshold. The probability-weighted EPS is also below required EPS, but probability-weighted EPS does not control the binary screen under the ER2 contract.

This arithmetic result does not cure the Management FAIL or convert the Moat/2046 YELLOW findings into PASS. It simply says the reviewed Base earnings case, after explicit corporate costs, taxes, NCI, and dilution, maps to a P/E slightly below 15 at today's packet price.

8. Reflexivity and historical anchor checks

The exact statutory TTM revenue tie is `19.970569 + 4.766328 + 2.797225 + 0.189038 = 27.723160`, equal to consolidated TTM revenue with zero residual. The exact statutory TTM profit tie is `0.530387 + 1.045600 + 1.456367 - 0.147611 = 2.884743`; adding Unallocated expenses of -0.600244 produces statutory operating income of 2.284499, again with zero residual. The FY2025 check likewise produces `0.581052 + 0.972682 + 1.184071 - 0.090537 - 0.661962 = 1.985306`.

No reflexive scaling is used. Horizon segment revenues and profits are accepted exactly from the reviewed appendices, and the corporate line is projected separately. The Base model does not infer that a larger consolidated margin proves its own revenue assumptions; Shopee monetization, Monee credit quality, Garena franchise duration, and Other Services rationalization each have their own operating mechanisms.

The first-forward-year Base revenue is approximately USD 34.344348 billion. It is reconstructed from Shopee 19.972 × 1.284 = 25.644048, Monee 5.486, Garena 3.000, and Other Services 0.2143. That is 23.88% above the USD 27.723160 billion TTM run rate, outside the nominal 10% band, but it is supported by quantified recent evidence: Q2 Shopee revenue grew 48.2% year on year, Monee 58.9%, Garena 33.5%, and management retained Shopee's around-25% FY2026 GMV objective. The first-year model is therefore a deceleration from current reported revenue growth rather than an unsupported step-up. Bear first-year revenue is 31.149020 billion and Bull is 36.271356 billion.

9. Latest interim bridge reconciliation

NOT TRIGGERED — four non-overlapping quarters used: Q3 2025, Q4 2025, Q1 2026, and Q2 2026. Revenue, operating income, pretax income, total net income, attributable net income, and operating cash flow are standalone quarterly flows. Q4 comes from the three-month column in the FY2025 release. Q2 operating cash flow is the H1 2026 cumulative amount less Q1 2026, with no overlap.

The TTM diluted-share denominator is not the sum or average of mismatched quarterly denominators. It uses the like-for-like official bridge `FY2025 - 0.5 × H1 2025 + 0.5 × H1 2026 = 638,227,141 - 318,114,819.5 + 317,243,726.5 = 637,356,048`. The same bridge can be expressed as an implied H2 2025 basis of 640,224,643 averaged with H1 2026's 634,487,453. This reproduces official TTM EPS from attributable income and contains no cumulative-period overlap.

10. Sensitivity — what moves the gate

The Base reference is revenue 58.095725 billion, statutory operating income 7.310782 billion, attributable net income 5.104329 billion, 641.427114 million diluted shares, and EPS USD 7.957769. Each row changes one variable while holding the others at Base. Shopee revenue-CAGR sensitivity maintains the reviewed 10.70% terminal segment margin and the 1.50% corporate-cost ratio. Monee margin sensitivity applies ±200 basis points to its exact `Operating segment income (loss)` basis. Share sensitivity changes only the EPS denominator. Tax sensitivity changes only the normalized cash tax rate.

Variable changed from Base	Down case	Base	Up case	Down EPS	Base EPS	Up EPS	Gate implication
Shopee five-year revenue CAGR	15.51%	17.51%	19.51%	7.595784	7.957769	8.340697	-200 bps fails; +200 bps widens pass
Monee terminal profit margin	18.27%	20.27%	22.27%	7.752923	7.957769	8.162615	Both remain above required EPS, narrowly on downside
Terminal diluted shares	-5%	100%	+5%	8.376599	7.957769	7.578827	+5% shares fails; -5% widens pass
Cash tax rate	27.00%	30.00%	33.00%	8.299792	7.957769	7.615746	33% tax fails

Shopee growth and dilution matter most at the present price. A 200-basis-point lower Shopee CAGR lowers endpoint Shopee revenue from 44.747 to 41.066501 billion and takes EPS to 7.595784, below the 7.712 requirement. A 5% larger terminal share count takes EPS to 7.578827. Tax normalization is almost equally decisive. By contrast, a 200-basis-point Monee margin decline leaves EPS at 7.752923, only 0.53% above the required level. The narrow cushion means the binary PASS depends on several assumptions behaving at least approximately as modeled; it is not robust to simultaneous downside.

11. Combined earnings summary

The company rollup uses one explicit nonuniform probability set: **35% Bear, 50% Base, and 15% Bull**. Base is modal because Sea's current operating momentum is real: all three core segments are profitable and recent revenue growth is strong. Bear receives more than twice Bull's weight because Management is a binding FAIL, Moat and the 2046 test are YELLOW, Shopee's positive statutory-margin history is short, Monee's credit cohorts are not seasoned or disclosed, and Garena remains franchise-concentrated. Bull receives 15% because it requires simultaneous success across all three major engines.

Case	Revenue, USD bn	OI, USD bn	OI margin	NI attributable, USD bn	EPS, USD per ADS	Probability	EPS × 15	Versus USD 115.68 per ADS
Bear	40.334408	1.647688	4.09%	1.055372	1.606297	35%	24.094448	-79.17%
Base	58.095725	7.310782	12.58%	5.104329	7.957769	50%	119.366529	3.19%
Bull	77.272490	14.937765	19.33%	10.565556	16.686690	15%	250.300351	116.37%
Probability-weighted diagnostic	54.755779	6.472746	11.82%	4.506378	7.044092	100%	105.661374	-8.66%

Probability-weighted EPS is the arithmetic expectation of scenario EPS using 35/50/15, as required for this synthesis table: `0.35 × 1.606296519 + 0.50 × 7.957768584 + 0.15 × 16.686690073 = 7.044091585`. It is not a security-return IRR, terminal wealth, or valuation method. Subsequent return underwriting must use the single method locked by valuation preflight and must probability-weight terminal shareholder wealth rather than average scenario IRRs.

The Base headline is therefore: TTM+5y revenue USD 58.096 billion, statutory operating income USD 7.311 billion, net income attributable USD 5.104 billion, and EPS USD 7.958 per ADS. Required EPS for a P/E of 15 at USD 115.68 is USD 7.712 per ADS, leaving a 3.19% cushion. The Base outcome is economically driven mainly by Shopee moving to a 10.70% segment margin on 44.747 billion of revenue and Monee retaining a 20.27% margin while growing to 9.639 billion of revenue. Garena contributes 1.499 billion of segment profit, but its Base revenue grows only about 4.0% annually. Corporate costs, taxes, NCI, and net dilution remain visible deductions.

12. Tie-out checks

Check 1 — Reported-financial and statutory-bridge tie-out: PASS

FY2025 segment profit is `0.581052 + 0.972682 + 1.184071 - 0.090537 = 2.647268`; Unallocated expenses of -0.661962 produce statutory operating income 1.985306. TTM segment profit is `0.530387 + 1.045600 + 1.456367 - 0.147611 = 2.884743`; Unallocated expenses of -0.600244 produce statutory operating income 2.284499. Both are exact within the packet's USD 1 thousand tolerance. TTM segment revenue sums to 27.723160, equal to consolidated TTM revenue with zero residual and well inside 2%. Source: `statutory_bridge.json`, `quant_foundation.md` P2/P4/P5, and `data_package.md` §§2-3a.

Check 2 — NI / shares / listed-unit / FX equals EPS: PASS

Bear: `1.055372477 billion / 657.022203 million × 1.0 × 1.0 = USD 1.606296519`. Base: `5.104328538 / 641.427114 × 1.0 × 1.0 = USD 7.957768584`. Bull: `10.565555823 / 633.172653 × 1.0 × 1.0 = USD 16.686690073`. Every value uses attributable income, quote-basis financial shares, one financial share per ADS, and USD identity FX.

Check 3 — Segment sum at horizon: PASS

Bear segment revenue sums to 40.3344081 and combined revenue is 40.3344081; Base sums to 58.0957246 and combined is 58.0957246; Bull sums to 77.2724898 and combined is 77.2724898. Each ratio is 100.0000%. Corporate eliminations are explicitly zero because the historical four-segment revenue perimeter already sums to consolidated revenue.

Check 4 — Product-to-segment rollup: PASS

Shopee's four product lines sum within 0.01% to 30.505 / 44.747 / 58.697. Monee's four lines sum within 0.01% to 8.017671 / 9.639409 / 12.399799. Garena's aggregate-portfolio line plus zero separate pipeline credit ties exactly to 1.640574 / 3.407040 / 5.765256. Other Services uses one combined line that ties exactly to 0.1711631 / 0.3022756 / 0.4104348. Sources: each reviewed segment appendix §10.

Check 5 — Weighted margin check: PASS

Shopee product revenue multiplied by product margins reproduces 1.439 / 4.790 / 10.083 and blended margins 4.72% / 10.70% / 17.18%. Monee product profits reproduce 0.778630 / 1.953575 / 3.109495 and 9.71% / 20.27% / 25.08%. Garena and Other Services each use one disclosed segment perimeter, so their single forecast margins equal their revenue-weighted margins by construction. All checks are within 1%; no product uses a different profit basis from `Operating segment income (loss)`.

Check 6 — Share count and security-unit path: PASS

Packet shares reconcile as `634.487453 million × 1.0 split factor = 634.487453 million quote-basis financial shares`; dividing by `1.0 depositary × class factor` gives 634.487453 million ADS equivalents. Over five years, starting shares plus cumulative SBC minus cumulative retirements ties exactly to 657.022203 / 641.427114 / 633.172653 in Bear / Base / Bull. The path never runs in ADR units as a substitute for financial shares, even though the factor is 1.0.

Check 7 — Growth plausibility: PASS

Shopee Base CAGR is 17.51%, below 1.2 × the disclosed FY2023-FY2025 35.7% CAGR. Monee Base CAGR is 15.1%, below 1.2 × its FY2022-FY2025 45.9% CAGR. Other Services Base CAGR is 9.96%, below 1.2 × its 15.1% observation-window CAGR. Garena Base CAGR of 4.0231% exceeds a mechanical comparison with its negative FY2022-FY2025 CAGR, but the reviewed appendix provides the required quantified exception: FY2025 revenue grew 26.1%, Q2 2026 revenue grew 33.5%, bookings grew 15.5%, and management guided double-digit 2026 growth. The Base still decelerates sharply to 4.0% over five years.

Check 8 — Historical forward arithmetic: PASS

All 30 reviewed product/case rows were recomputed over exactly five years. The audit summary below reports the TTM base, effective CAGR or explicit five-year path, recalculated endpoint, and reviewed endpoint. Rounding residuals are below 1% in every row.

Segment / product and case	TTM base	Five-year rate or path	Recalculated endpoint	Reviewed endpoint	Result
Shopee transaction Bear	10.647	9.88% CAGR	17.051	17.051	PASS
Shopee advertising Bear	4.563	11.72% CAGR	7.940	7.940	PASS
Shopee logistics Bear	2.418	2.81% CAGR	2.778	2.778	PASS
Shopee goods Bear	2.344	3.13% CAGR	2.735	2.735	PASS
Shopee transaction Base	10.647	17.33% CAGR	23.677	23.677	PASS
Shopee advertising Base	4.563	23.71% CAGR	13.220	13.220	PASS
Shopee logistics Base	2.418	11.71% CAGR	4.207	4.207	PASS
Shopee goods Base	2.344	9.23% CAGR	3.644	3.644	PASS
Shopee transaction Bull	10.647	23.72% CAGR	30.861	30.861	PASS

Segment / product and case	TTM base	Five-year rate or path	Recalculated endpoint	Reviewed endpoint	Result
Shopee advertising Bull	4.563	31.25% CAGR	17.774	17.774	PASS
Shopee logistics Bull	2.418	17.38% CAGR	5.387	5.387	PASS
Shopee goods Bull	2.344	14.81% CAGR	4.676	4.676	PASS
Monee on-platform Bear	1.450	10.00% CAGR	2.335	2.335	PASS
Monee off-platform Bear	1.780	13.00% CAGR	3.280	3.280	PASS
Monee SME Bear	0.670	11.00% CAGR	1.129	1.129	PASS
Monee other finance Bear	0.867	8.00% CAGR	1.274	1.274	PASS
Monee on-platform Base	1.450	14.00% CAGR	2.792	2.792	PASS
Monee off-platform Base	1.780	17.00% CAGR	3.903	3.903	PASS
Monee SME Base	0.670	15.00% CAGR	1.348	1.348	PASS
Monee other finance Base	0.867	13.00% CAGR	1.597	1.597	PASS
Monee on-platform Bull	1.450	19.00% CAGR	3.460	3.460	PASS
Monee off-platform Bull	1.780	24.00% CAGR	5.218	5.218	PASS
Monee SME Bull	0.670	21.00% CAGR	1.738	1.738	PASS
Monee other finance Bull	0.867	18.00% CAGR	1.983	1.983	PASS
Garena Bear	2.797225	-10.1219% CAGR	1.640574	1.640574	PASS
Garena Base	2.797225	4.0231% CAGR	3.407040	3.407040	PASS
Garena Bull	2.797225	15.5628% CAGR	5.765256	5.765256	PASS
Other Services Bear	0.188000	4%, 0%, -3%, -5%, -5%	0.171163	0.171163	PASS
Other Services Base	0.188000	14%, 12%, 10%, 8%, 6%	0.302276	0.302276	PASS
Other Services Bull	0.188000	24%, 20%, 17%, 14%, 10%	0.410435	0.410435	PASS

Check 9 — Recency anchor: PASS

Base first-forward-year revenue is 34.344348 versus TTM 27.723160, a 23.88% increase. Although outside ±10%, the reviewed appendices contain quantified primary-source support: latest-quarter revenue growth was 48.2% at Shopee, 58.9% at Monee, and 33.5% at Garena; Shopee's 2026 GMV objective remained around 25%. The modeled first-year increase is below those reported segment revenue rates and therefore represents deceleration, not an unsupported discontinuity. The model does not jump margins mechanically with the revenue step; each segment's annual margin mechanism remains separate.

Check 10 — Period and horizon integrity: PASS

All flow inputs use Q3 2025, Q4 2025, Q1 2026, and Q2 2026 without overlap. The official share bridge uses like-for-like H1 periods. Every displayed CAGR begins at 2026-06-30 and ends at 2031-06-30, exactly 5.0 years. FY2025 is used only for historical tie-out. Other Services' explicit annual path contains five multipliers, and all other endpoints use fifth-power compounding or five annual cadence steps. No row uses a six-year interval.

Check 11 — Valuation, unit bridge, hashes, and probability arithmetic: PASS

The exact quote-packet hash recomputes to `c74da8bc0985413d450e6454e9e3f7ca08e79017629340dab48baff3e141b2dd`; the exact statutory-bridge hash recomputes to `0ab960edaa262fb4fc1f2090d6e90a17ea720d6dfd6d92be220fab8d211bc271`. `XNYS:SE`, raw close USD 115.68, one ADS per one Class A share, one-for-one class conversion, no split, and USD identity FX reproduce the full unit bridge. EPS × 15 equals 24.094448 / 119.366529 / 250.300351. Probabilities `35% + 50% + 15% = 100%`. Probability-weighted EPS is 7.044091585. Cushions recompute against the same USD 115.68 ADS price. Base, not Bull, controls the binary screen and passes with 3.19% cushion.

All eleven arithmetic checks pass. The result is quantitatively coherent but fragile: the Base P/E cushion is small, Management remains FAIL, and both Moat and 2046 durability remain YELLOW. Those qualitative findings are binding inputs for later verdict work and do not excuse or alter the completed earnings underwriting.

SYNTHESIS CLEARED — 11/11 TIE-OUTS PASSED

Appendix CS - Compounder Score

Sea Limited (XNYS:SE) - Compounder Score

Report ID: `SE-ER2-20260825T060138+0800` Run ID: `pulse-cio-20260825T060138+0800` Analysis date: 2026-08-25 Security: XNYS:SE American Depositary Share; one ADS represents one ordinary share Price: USD 115.68 per ADS, the 2026-08-24 completed NYSE close Return anchor: 2026-06-30 to 2031-06-30, exactly 5.0 years Authority: diagnostic security research only. `trade_execution_authorized=false`.

1. Executive Verdict

Compounder Score: 48/100. Business Quality Score: 45/80. 20% Return Underwriting/Stretch Score: 3/20. Score-implied classification: Reject.

The evidence supports a large organic runway, three scaled platforms, genuine Shopee marketplace density, unusually strong current cash generation, and a net-cash balance sheet. It does not support the full dream-compounder claim. A credible acquisition-inclusive ROIIC series is unavailable; the five-year median native ROIC is low because the historical period includes large losses; Shopee has only a short, thin positive-margin record; Monee's rapidly growing credit book lacks vintage, funding, country, duration, and risk-adjusted return disclosure; Garena remains dependent on Free Fire; and Other Services has no demonstrated moat or product-level economics. Management is a hard **FAIL** because of controller dominance and minority-protection deficiencies, while Moat and the 2046 test are both **YELLOW**.

The valuation result is more decisive. Valuation Preflight locked P/E as the sole primary method and locked exit P/Es of 12x, 18x, and 24x. At those multiples and the locked statutory diluted EPS outcomes, gross USD annualized returns are **-30.12% Bear, 4.37% Base, and 28.19% Bull**. Probability-weighting terminal shareholder wealth at 35% / 50% / 15%, rather than averaging scenario IRRs, produces only **3.66% gross USD annualized**. The Base outcome does not approach the 20% stretch hurdle. Its maximum entry price for a 20% annualized return is USD 57.564876910, approximately half the current price.

This diagnostic score does not override the ER2 gates. Under the non-compensating gate policy, Management FAIL alone prevents BUY; under the exact verdict decision rule, a hard gate FAIL implies **ER2 PASS**. The score independently reaches Reject because the quality evidence is incomplete and valuation offers little expected-return compensation outside the low-probability Bull case.

2. Data Source Map

Evidence family	Controlling source	Period / use	Confidence
Listing, price, ADS ratio, share unit and quote basis	`quote_packet.json`, SHA-256 `c74da8bc0985413d450e6454e9e3f7ca08e79017629340dab48baff3e141b2dd`	2026-08-24 close; one ADS per ordinary share	High
Historical statutory statements and TTM arithmetic	`quant_foundation.md`; `statutory_bridge.json`, SHA-256 `0ab960edaa262fb4fc1f2090d6e90a17ea720d6dfd6d92be220fab8d211bc271`	FY2021-FY2025 and TTM ended 2026-06-30	High
Source map, capital allocation, balance sheet and operating KPIs	`data_package.md`	Official 20-F/6-K evidence through Q2 2026	High for disclosed totals; lower for TTM capex diagnostic
Shopee economics and scenario endpoints	R-reviewed `appendix_B_shopee.md`	TTM to 2031-06-30	Medium; product allocation is analyst-estimated
Monee economics and scenario endpoints	R-reviewed `appendix_B_monee.md`	TTM to 2031-06-30	Medium-low for product and credit bridge because cohorts are undisclosed
Garena economics and scenario endpoints	R-reviewed `appendix_B_garena.md`	TTM to 2031-06-30	Medium; title-level dollars are undisclosed
Other Services economics and scenario endpoints	R-reviewed `appendix_B_other_services.md`	TTM to 2031-06-30	Low; constituents and unit economics are undisclosed
Management, incentives, governance and capital stewardship	`appendix_management.md`	Current through 2026-08-25	High for governance facts; Management gate FAIL
Moat, pricing power and disruption	`appendix_moat.md`	Current and 2046 durability test	Medium; Moat and 2046 YELLOW

Evidence family	Controlling source	Period / use	Confidence
Combined earnings, dilution and scenario probabilities	`appendix_S_synthesis.md`	Exact 5.0-year model; 11/11 tie-outs passed	High for arithmetic; scenario confidence remains bounded
Normalization, method, denominator, claims and exit P/E	`valuation_preflight.json`, SHA-256 `ce3371451a3d0d2a74069c4a91e2db24242ce2217faab8321098ce01d10683a9`	Mandatory controlling valuation artifact	High; validator returned `VALUATION_PREFLIGHT_VALID`

The valuation-preflight path is `C:\Users\Admin\OneDrive\GPT\ER 2.0\Sea Limited\valuation_preflight.json`. Its status is `CLEARED`, all five foundation flags pass, and the blocker list is empty. Its primary method, normalized denominator, capital-structure treatment, diluted-share paths, and scenario multiples are reproduced without modification.

3. Key Financial and Quality Metrics

Metric	Result	Interpretation
FY2021-FY2025 revenue CAGR	23.21%	Four compounding intervals across five annual observations; strong but not a full-cycle quality proof
Five-year median native ROIC	Approximately 0.8%	FY2021-FY2025 native series was -13.3%, -14.2%, 0.8%, 3.0%, and 8.1%
FY2025 statutory-NOPAT ROIC diagnostic	12.4%	Official operating income and tax bridge over FMP invested capital; denominator-sensitive
Three-year / five-year ROIIC	Insufficient evidence	No governed reinvestment denominator reconciles credit capital, capitalized growth opex, working capital and acquisitions
Acquisition-inclusive ROIIC	Insufficient evidence	M&A is small, but lack of a credible total reinvestment denominator still blocks a numerical claim
FY2025 FCF	USD 4.510714bn	Official OCF less cash PPE capex
TTM FCF diagnostic	USD 4.422932bn	Uses vendor-assisted TTM capex; lower confidence than FY2025
TTM CFO / net income	3.10x	Strong cash conversion, partly affected by credit and working-capital movements
TTM FCF / net income	2.63x	Strong, but the capex component is diagnostic rather than fully issuer-disclosed
FY2021-FY2025 diluted-share CAGR	4.62%	Material dilution over four intervals; shares rose 19.8% in total
TTM SBC / revenue	2.02%	Improving, but still USD 560.556m of economic cost
TTM SBC / diagnostic FCF	12.67%	Buybacks partly recycle compensation rather than create a clean net shrink
Current FCF yield	6.03%	Uses diagnostic TTM FCF and USD 73.397509bn market capitalization
Current diagnostic EV / normalized NOPAT	44.76x	Uses the disclosed claim perimeter; not the primary valuation method
Net debt / TTM adjusted EBITDA	-1.38x	Net cash after leases, before restricted cash

Sea's industrial-style ROIC is directionally useful but not sufficient for a high score. Monee uses credit assets, deposits, partner funding, regulatory capital, and restricted liquidity. Leased fulfillment capacity reduces owned PPE without eliminating real fixed commitments. The observed rise from losses to positive operating income is meaningful, yet it does not provide the numerator-and-reinvestment-denominator discipline required for a 25%-plus ROIIC claim. Category 1 is therefore capped.

4. Rubric Scorecard

Category	Score	Maximum	Evidence-based conclusion
1. Incremental Returns on Capital	8	25	Strong profit inflection, but persistent high ROIC and credible ROIIC are not established
2. Reinvestment Runway	16	20	Large organic commerce/fintech runway and demonstrated platform scaling, offset by risk and margin uncertainty

Category	Score	Maximum	Evidence-based conclusion
3. Durability of Moat	8	15	Real network, data and franchise advantages, but pricing power and 20-year durability remain partial
4. Accounting Honesty and Financial Quality	7	10	Statutory bridge and cash flow are sound; dilution, governance and disclosure gaps cap the score
5. Capital Allocation Discipline	6	10	Low M&A and organic investment are positive; incentives, control and buyback economics remain weak
Business Quality Score	**45**	**80**	**Below the 55/80 threshold for promising-but-incomplete dream-business evidence**
6. Price and 20% Return Underwriting	3	20	Independently conservative exit multiples, but Base and expected returns fail badly
Compounder Score	**48**	**100**	**Reject under this diagnostic rubric**

Category 1 detail: 1A 1/5; 1B 0/8; 1C 2/3; 1D 2/3; 1E 2/3; 1F 1/3. Category 2 detail: 2A 5/5; 2B 4/5; 2C 4/4; 2D 2/3; 2E 1/2; 2F 0/1. Category 3 detail: 3A 3/4; 3B 1/3; 3C 2/3; 3D 1/2; 3E 1/2; 3F 0/1. Category 4 detail: 4A 2/2; 4B 2/2; 4C 1/2; 4D 2/2; 4E 0/1; 4F 0/1. Category 5 detail: 5A 2/2; 5B 2/2; 5C 1/2; 5D 0/2; 5E 0/1; 5F 1/1. Category 6 detail: 6A 0/6; 6B 3/4; 6C 0/3; 6D 0/3; 6E 0/2; 6F 0/2.

Category 6B receives 3/4 because every locked exit P/E is independently justified and below the comparable normalized current P/E of 44.679861x. It does not receive 4/4 because the Base case still does not clear 20%. No points are awarded for cash returns because the governed return bridge has zero distributions and the modeled repurchases mainly offset SBC through the diluted-share path.

5. ROIIC and Reinvestment Analysis

The evidence supports a sharp improvement in accounting profitability, not a clean long-duration ROIIC measurement. Revenue rose from USD 9.955bn in FY2021 to USD 22.938bn in FY2025. Operating income improved from a USD 1.583bn loss to USD 1.985bn profit. Shopee moved from a USD 2.767bn segment loss to USD 0.581bn profit; Monee moved from a USD 0.640bn loss to USD 0.973bn profit; Garena remained highly profitable through a large demand cycle. These are real operating achievements.

The denominator is the problem. Reinvestment includes R&D, growth sales and marketing, working capital, leased fulfillment capacity, credit assets, regulatory capital, and modest acquisitions. The governed files do not reconcile all these items into a credible cumulative reinvestment schedule. Treating only cash PPE capex as reinvestment would make ROIIC artificially high. Treating the entire expansion of Monee's loan principal as ordinary industrial invested capital would also be misleading because on-book and off-book funding, deposits, retained risk, partner economics, and regulatory claims are undisclosed. Therefore three-year, five-year, and acquisition-inclusive ROIIC remain `Insufficient evidence`, which scores 0/8 under the exact rubric rather than receiving an estimate.

Cash conversion is strong. FY2023-FY2025 FCF was USD 1.821bn, USD 2.956bn, and USD 4.511bn after negative FCF in FY2021-FY2022. TTM CFO of USD 5.216bn is 3.10x total net income. This is evidence that current earnings are not merely non-cash. It is not sufficient to prove a steady-state conversion rate because lending growth, customer funding, securities purchases, and working-capital timing can move operating cash independently of economic profit.

Dilution is an explicit cost. Diluted weighted shares increased from 532.706m in FY2021 to 638.227m in FY2025, a 19.8% total increase. TTM SBC was USD 560.556m. The new repurchase program is constructive and approximately USD 599.7m had been executed through Q2 2026, but the forward model still ends at 657.022m shares in Bear, 641.427m in Base, and 633.173m in Bull. Per-share compounding is therefore weaker than the consolidated profit headline in Bear and Base.

6. Runway Analysis

Shopee has the clearest organic runway. It combines commerce volume, marketplace fees, advertising, logistics and seller tools across Southeast Asia, Taiwan, Brazil and adjacent markets. TTM GMV was USD 144.5bn and orders were 15.8bn. Q2 revenue grew 48.2%, GMV grew 28.4%, and orders grew 27.5%. The Base scenario still requires a demanding 17.51% five-year revenue CAGR and an increase in segment margin from 2.66% to 10.70%. Advertising is the most credible

incremental-margin engine, but its dollar series and seller return on ad spend are not disclosed.

Monee has a large payments and credit runway, but growth is not synonymous with value creation. Q2 loan principal was USD 11.1bn, up 62.5%, and 90-day NPL was 1.0%. At the same time, quarterly segment margin fell from 25.07% to 19.89% across the TTM. The Base case reaches USD 22.795bn of loan principal and USD 9.639bn of revenue while keeping a 20.27% segment margin. That is plausible, but not proven without vintage losses, provisions, charge-offs, funding costs, country mix, duration, on-book share, and risk-adjusted yield.

Garena supplies current profit but a narrower runway. Its TTM segment margin was 52.06%, yet historical bookings fell from USD 4.6bn in FY2021 to USD 1.8bn in FY2023 before recovering. The Base forecast gives no separate pipeline revenue credit and produces only 4.02% revenue CAGR. This is prudent. It also shows why current group profit does not automatically imply a long reinvestment runway.

Other Services earns no runway credit beyond optionality. It has no disclosed product list, customer base, unit economics or management target, and its TTM margin was approximately -78.5%. The Base case assumes rationalization to a still-negative 20% margin. That is a clean accounting treatment, not evidence of a fourth growth platform.

7. Moat Analysis

Shopee has localized two-sided network effects, logistics density, workflow integration, brand, trust-and-safety infrastructure, and high-intent transaction data. These advantages are meaningful, but buyers and sellers multi-home. TikTok Shop can own discovery, Lazada can constrain fee levels, and Mercado Libre is entrenched in Brazil. Pricing power is clearest in advertising: Q2 advertising revenue grew more than 70%, ad take rate rose more than 90 basis points, ad-paying sellers rose about 45%, and average spend per seller rose more than 15%. The lack of a complete advertising-dollar and ROI series limits the score.

Monee's embedded Shopee distribution and closed-loop repayment data can lower acquisition cost and improve underwriting. Licenses, fraud operations, servicing and collections are additional barriers. The advantage weakens off-platform, where banks, Grab, GoTo, Nubank and other lenders possess funding, bureau data and their own behavioral datasets. A 1.0% aggregate 90-day NPL on a 62.5%-growing book is not through-cycle moat proof.

Garena owns a valuable Free Fire social graph, live-operations capability and low-device optimization. The moat is title-specific. Generative AI lowers content-production and imitation costs, while player attention can move quickly. Other Services has no demonstrated moat. The group Moat and 2046 conclusions are therefore correctly YELLOW: Sea can plausibly become durable regional commerce and finance infrastructure, but that future requires Shopee profit durability, Monee credit-cycle proof, and a broader Garena franchise base.

8. Accounting and Capital Allocation Analysis

The statutory evidence is strong. FY2025 and TTM segment revenue and `Operating segment income (loss)` tie to consolidated operating income, pretax income and net income with zero residual. The exact quote, ADS ratio, split basis, diluted-share bridge, and USD currency basis are sealed. Material one-offs are treated conservatively. Investment losses, a debt-extinguishment gain and FX losses are neutralized only in normalized current EPS; recurring interest, SBC, operating costs, unquantified impairment, and litigation-settlement evidence are retained.

Financial quality is nevertheless capped. FMP's current product taxonomy is unusable for Sea and official sources must override it. TTM capex and FCF are vendor-assisted diagnostics because quarterly official releases do not disclose standalone cash PPE capex. Product P&Ls are unavailable across Shopee, Monee and Garena. Most importantly, governance is not clean enough for a full score: the founder controls 57.6% of votes with 16.0% statutory beneficial ownership, the board is not majority independent, the founder chairs compensation and nomination, the equity plan need not receive ordinary shareholder approval, and two 2025 securities-class-action settlements totaled USD 86m without admissions of wrongdoing.

Capital allocation is mostly organic and acquisition discipline is good. Five-year M&A was only USD 159m, while R&D exceeded USD 1.1bn annually from FY2022 through FY2025. The 2022-2023 profitability reset shows willingness to correct overspending. Buybacks are now material, but no intrinsic-value framework is disclosed and much of the economic benefit offsets SBC. No dividend has ever been paid, so distributions are not invented in the return model.

9. 20% Return Underwriting

Primary valuation method: P/E. This method is used without change for Bear, Base, Bull, probability weighting, the 20% reverse-return test, maximum-buy-price diagnostic, and net-SGD overlay. P/E is appropriate because terminal statutory

attributable diluted EPS is reconciled for every scenario. EV/NOPAT is rejected because source-bound terminal cash, debt, lease and senior-claim paths are unavailable. P/B-ROE is rejected because Sea is not a balance-sheet-led consolidated financial and no zero-residual parent-common-equity roll-forward exists.

Capital-structure diagnostic and double-count control

Current cash and short-term investments are USD 9.098856bn. Restricted cash is USD 2.461531bn and is excluded from excess liquidity. Gross debt excluding leases is USD 2.220627bn, comprising USD 0.996311bn of convertible notes and USD 1.224316bn of other borrowings. This gives current net cash of USD 6.878229bn before restricted cash and leases. Lease liabilities are a separate USD 1.905856bn; after leases, the disclosed net-cash diagnostic is USD 4.972373bn. NCI is USD 0.138329bn.

These figures are disclosed because the security-return contract requires the claim perimeter to be visible. They are **not** added to or subtracted from terminal value. Statutory EPS already reflects interest income, interest expense, NCI attribution and capital structure, while P/E is an equity multiple. Adding cash or subtracting debt after `EPS x P/E` would double count. Restricted cash is neither treated as distributable cash nor added to equity value. The convertible is assumed cash-settled below its USD 477.01 initial conversion price; no terminal dilution is added unless VP is rerun.

Security return underwriting

Measure	Bear	Base	Bull	Probability-weighted
Current price per ADS	USD 115.68	USD 115.68	USD 115.68	USD 115.68
Exact horizon	2026-06-30 to 2031-06-30	2026-06-30 to 2031-06-30	2026-06-30 to 2031-06-30	5.0 years
Scenario probability	35%	50%	15%	100%
Terminal statutory diluted EPS per ADS	USD 1.606296519	USD 7.957768584	USD 16.686690073	Not used as a return shortcut
Exit P/E	12.00x	18.00x	24.00x	Scenario-specific
Terminal equity value per ADS	USD 19.275558228	USD 143.239834512	USD 400.480561752	USD 138.438446899 expected wealth
Terminal diluted shares	657.022203m	641.427114m	633.172653m	Scenario-specific
Total terminal equity value	USD 12.664469731bn	USD 91.877913661bn	USD 253.573339759bn	Not summed across states
Net cash/debt adjustment after P/E	USD 0.000000000	USD 0.000000000	USD 0.000000000	P/E embeds the capital structure
Cumulative distributions per ADS	USD 0.000000000	USD 0.000000000	USD 0.000000000	USD 0.000000000
Terminal shareholder wealth per ADS	USD 19.275558228	USD 143.239834512	USD 400.480561752	USD 138.438446899
Gross USD annualized IRR	-30.12%	4.37%	28.19%	3.66%

Formula: `terminal equity value per ADS = terminal statutory diluted EPS x exit P/E`; `terminal shareholder wealth = terminal equity value per ADS + distributions`; `scenario IRR = (terminal wealth / 115.68)^(1/5) - 1`. Probability-weighted wealth is `35% x 19.275558228 + 50% x 143.239834512 + 15% x 400.480561752 = USD 138.4384468986`. The probability-weighted gross return is `(138.4384468986 / 115.68)^(1/5) - 1 = 3.657251136%`. It is not the arithmetic average of the three scenario IRRs.

The tables below show gross USD underwriting. Net-SGD adjustments appear afterward. All starting operating values are TTM ended 2026-06-30; the price is the sealed 2026-08-24 quote used at the same five-year return horizon.

Bear-case operating and return bridge

Bear case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Revenue	USD 27.723160bn	USD 40.334408bn	7.79%	Shopee and Monee still grow, while Garena contracts and Other Services remains impaired
Operating margin	8.24%	4.09%	-4.15 pp	Competitive reinvestment, credit pressure, Garena de-scaling and residual losses compress profit

Bear case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Operating earnings	USD 2.284499bn	USD 1.647688bn	-6.33%	Statutory operating income after the explicit unallocated-expense burden
Diluted share count	634.487453m	657.022203m	0.70%	SBC issuance exceeds USD 0.2bn annual buybacks at the locked USD 80 share-price assumption
EPS	USD 2.569759878	USD 1.606296519	-8.97%	Statutory diluted attributable EPS on one-ADS-per-share basis
Valuation denominator	Reported EPS USD 2.569760; normalized EPS USD 2.589086	Statutory EPS USD 1.606297	Comparable	Normalized current and terminal statutory diluted EPS share the same perimeter
Valuation	44.679861x normalized P/E	12.00x P/E	-32.679861x	One-third haircut to the lowest positive peer, reflecting Management FAIL and left-tail risk
Share value	USD 115.68	USD 19.275558	-30.12%	USD 1.606296519 EPS x 12x; no cash/debt adjustment after P/E
Annual dividend	USD 0.00	USD 0.00	0.00%	Sea has paid no dividends and the governed diagnostic assumes none
Dividend yield	0.00%	0.00%	0.00 pp	Annual dividend divided by endpoint share value
Five-year dividends	-	USD 0.00	Cumulative	Finite zero-distribution diagnostic; no invented dividend
Total ending value	USD 115.68	USD 19.275558	-30.12% gross USD IRR	Terminal P/E share value plus zero distributions

Base-case operating and return bridge

Base case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Revenue	USD 27.723160bn	USD 58.095725bn	15.95%	Shopee monetization and Monee expansion offset mature Garena and residual losses
Operating margin	8.24%	12.58%	+4.34 pp	Shopee scales to 10.70%, Monee holds 20.27%, and corporate costs leverage modestly
Operating earnings	USD 2.284499bn	USD 7.310782bn	26.19%	Statutory operating income after USD 0.871436bn of unallocated expense
Diluted share count	634.487453m	641.427114m	0.22%	USD 0.4bn annual buybacks do not fully offset SBC issuance
EPS	USD 2.569759878	USD 7.957768584	25.37%	Statutory diluted attributable EPS after tax, equity investees, NCI and dilution
Valuation denominator	Reported EPS USD 2.569760; normalized EPS USD 2.589086	Statutory EPS USD 7.957769	Comparable	The normalized current denominator removes only locked nonrecurring below-line items
Valuation	44.679861x normalized P/E	18.00x P/E	-26.679861x	Low end of the mature platform peer range; Management FAIL and Moat YELLOW cap the multiple
Share value	USD 115.68	USD 143.239835	4.37%	USD 7.957768584 EPS x 18x; no cash/debt adjustment after P/E
Annual dividend	USD 0.00	USD 0.00	0.00%	No source-bound dividend path exists
Dividend yield	0.00%	0.00%	0.00 pp	Annual dividend divided by endpoint share value

Base case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Five-year dividends	-	USD 0.00	Cumulative	Finite zero-distribution diagnostic
Total ending value	USD 115.68	USD 143.239835	4.37% gross USD IRR	Terminal P/E share value plus zero distributions

Bull-case operating and return bridge

Bull case	Start (2026-06-30)	Horizon (2031-06-30)	CAGR / change	Justification
Revenue	USD 27.723160bn	USD 77.272490bn	22.75%	Simultaneous Shopee share gains, Monee underwriting success and a broadened Garena audience
Operating margin	8.24%	19.33%	+11.09 pp	Shopee reaches 17.18%, Monee 25.08%, Garena 46%, and Other Services modest profitability
Operating earnings	USD 2.284499bn	USD 14.937765bn	45.58%	High-margin monetization and scale outweigh a still-visible corporate cost base
Diluted share count	634.487453m	633.172653m	-0.04%	USD 0.6bn annual buybacks slightly exceed gross SBC issuance
EPS	USD 2.569759878	USD 16.686690073	45.38%	Statutory diluted attributable EPS on the locked share path
Valuation denominator	Reported EPS USD 2.569760; normalized EPS USD 2.589086	Statutory EPS USD 16.686690	Comparable	Same statutory attributable diluted-EPS perimeter
Valuation	44.679861x normalized P/E	24.00x P/E	-20.679861x	Bottom of the SEA-platform-to-premium-commerce range after governance and durability haircuts
Share value	USD 115.68	USD 400.480562	28.19%	USD 16.686690073 EPS x 24x; no cash/debt adjustment after P/E
Annual dividend	USD 0.00	USD 0.00	0.00%	Even the Bull bridge does not invent distributions
Dividend yield	0.00%	0.00%	0.00 pp	Annual dividend divided by endpoint share value
Five-year dividends	-	USD 0.00	Cumulative	Finite zero-distribution diagnostic
Total ending value	USD 115.68	USD 400.480562	28.19% gross USD IRR	Terminal P/E share value plus zero distributions

Net-SGD diagnostic

The net-SGD overlay uses the same P/E terminal values and probabilities. It does not change exit multiples, EPS, shares, distributions or capital structure. Investor-specific tax, broker and FX facts are unavailable, so the following governed conservative diagnostic is used: starting USD/SGD of 1.29 SGD per USD; terminal USD/SGD of 1.20 Bear, 1.23 Base, and 1.26 Bull; 0.35% entry friction and 0.35% exit friction; 0.10% annual ADS/custody drag; 15% withholding on cash distributions; and 0% security-level capital-gains withholding. Because distributions are explicitly zero, dividend withholding is also zero rather than an invented cash tax.

Starting SGD outlay per ADS is `USD 115.68 x 1.29 x 1.0035 = SGD 149.7494952`. Terminal SGD wealth is `USD terminal wealth x scenario terminal USD/SGD x 0.9965 x (0.999)^5`. Net-SGD IRR is `(terminal SGD wealth / 149.7494952)^(1/5) - 1`. Probability-weighted net-SGD return first weights terminal SGD wealth, then annualizes; it does not average scenario net IRRs.

Net-SGD measure	Bear	Base	Bull	Probability-weighted
Terminal USD/SGD assumption	1.20	1.23	1.26	Scenario-weighted wealth
Terminal net SGD wealth per ADS	SGD 22.934694	SGD 174.692261	SGD 500.330215	SGD 170.422806

Net-SGD measure	Bear	Base	Bull	Probability-weighted
Net-SGD annualized IRR	**-31.29%**	**3.13%**	**27.29%**	**2.62%**

Both the Base and probability-weighted net-SGD diagnostics fail the owner's 10% mandate hurdle. This is security-level return evidence only, not portfolio actionability or trade authority.

Reverse-return and maximum-buy-price diagnostic

A 20% annualized return over five years requires terminal shareholder wealth of `115.68 x 1.20^5 = USD 287.8488576` per ADS. At the locked Base exit P/E of 18x and zero distributions, required terminal EPS is USD 15.9916032, versus Base EPS of USD 7.957768584. Required EPS CAGR from current statutory EPS is 44.15%, versus the Base modeled 25.37%. The maximum current price compatible with 20% annualized at the Base terminal wealth is `143.239834512 / 1.20^5 = USD 57.564876910`. The 20% reverse-return hurdle is therefore not beatable on the Base evidence.

10. Hard Veto Checklist

Hard veto	Result	Evidence
ROIIC below cost of capital with no credible improvement path	Watch	Profitability improved sharply, but governed ROIIC is unavailable
High ROIC is an artifact of tiny or negative invested capital	Watch	Latest statutory diagnostic is 12.4%, while the native denominator is only 8.1%
Growth requires persistent external financing	Pass	Net cash and strong current FCF provide capacity, although Monee needs funding discipline
Share count rises materially without proven per-share value creation	Fail	FY2021-FY2025 diluted shares rose 19.8%; Base still has net dilution
Large acquisitions without disclosed returns	Pass	Five-year M&A was only USD 159m
FCF structurally lags earnings	Pass	Current CFO and FCF substantially exceed net income, with stated diagnostic caveats
Dependency, regulation, cyclicality or leverage can impair equity	Watch	Monee credit, Shopee competition and Free Fire concentration are material
20% case requires terminal multiple expansion versus comparable current multiple	Pass	All locked exit P/Es are below the comparable normalized current P/E
Today's price requires flawless execution	Fail	Base gross IRR is 4.37%; expected gross IRR is 3.66%; the P/E-15 cushion is only 3.19%
Moat cannot be explained	Watch	The mechanism is explainable but 2046 durability remains YELLOW
Governance or accounting issues impair trust	Fail	Management gate is FAIL because minority-protection weaknesses are structural
Balance-sheet risk can wipe out equity in a downturn	Pass	Sea has USD 4.972bn net cash after leases before restricted cash

Hard vetoes remain. The diagnostic cannot classify Sea as Investable now even if one rescored individual business-quality subitems more generously.

11. Final Decision

Score-implied classification: Reject. The 48/100 total is below the rubric's 70-point floor. Business Quality at 45/80 is below the 55-point promising-but-incomplete band. The 3/20 return score says the current price does not support the 20% stretch hurdle. The Base and probability-weighted returns are weak even though the locked exit multiples are well below the normalized current P/E, which means the problem is not a punitive multiple assumption; it is the amount of earnings growth already capitalized in the starting price.

Threshold checks all required for Investable now do not pass. Total score is below 80; Business Quality is below 65; valuation score is below 15; ROIIC plus runway is only 24/45; Base IRR is below 20%; Bear IRR is below 8%; hard vetoes exist. The no-multiple-expansion condition does pass, but one passing condition cannot compensate for the others.

Compounder Score note: **48/100; the evidence does not support dream-investment status, and hard governance, dilution and valuation concerns remain.** Business Quality Score note: **45/80; runway is large, but durable high ROIIC, through-cycle Monee economics and 2046 moat proof are insufficient.** 20% Return UW Score note: **3/20; Base gross**

USD IRR is 4.37% and probability-weighted gross USD IRR is 3.66%, far below the stretch hurdle.

The binding monitoring issues are quantitative: Shopee must sustain market-share growth while lifting segment margin above 5% without incentives rising faster than GMV; Monee must disclose and pass through-cycle vintage, funding and loss tests; Garena must establish a second durable bookings pool; net dilution must remain below 1%; and governance must acquire a majority-independent board, independent key committees, a credible Class B sunset and shareholder-approved equity plans. None of those monitoring conditions authorizes a trade.

12. Machine-Readable JSON

The full-precision companion artifact is `C:\Users\Admin\OneDrive\GPT\ER 2.0\Sea Limited\compounder_score.json`. It preserves the locked VP inputs, scenario wealth arithmetic, net-SGD overlay, scoring details, hard vetoes, hashes, and `trade_execution_authorized=false`.

COMPOUNDER SCORE: 48/100

Appendix CSA - Scoring Audit

Sea Limited (XNYS:SE) — Independent Compounder Scoring Audit

Report ID: `SE-ER2-20260825T060138+0800` Run ID: `pulse-cio-20260825T060138+0800` Analysis date: 2026-08-25 Audited security: XNYS:SE American Depositary Share, one ADS per ordinary share Audit status: **SCORING AUDIT COMPLETE - AUDITED SCORE CLEARED FOR STAGE 7** Authority: diagnostic security research only. `trade_execution_authorized=false`.

1. Original vs Audited Scores

The original score is preserved. I independently reconstructed the rubric, validated the locked valuation preflight, reconciled the score totals, and replayed the gross-USD and net-SGD return mathematics. The Compounder Score is 48/100, consisting of a Business Quality Score of 45/80 and a Valuation / 20% Return Underwriting Score of 3/20. The score-implied classification remains **Reject**. This diagnostic classification is separate from the ER2 non-compensating gates; it does not authorize a trade or override the Management, Moat, 2046, or P/E-15 decisions.

Item	Original	Audited	Notes
Business Quality Score / 80	45/80	45/80	Evidence supports runway and improving economics, but not durable high ROIIC or through-cycle proof
Valuation / 20% Return UW Score / 20	3/20	3/20	Base and probability-weighted returns fail the 20% stretch hurdle despite independently conservative exit P/Es
Total Score / 100	48/100	48/100	45 + 3 = 48; no score reduction required
Classification	Reject	Reject	Below 70, hard vetoes remain, and the 20% case is not plausible at the current price

The Business Quality subtotal reconstructs exactly: Incremental Returns on Capital 8/25, Reinvestment Runway 16/20, Durability of Moat 8/15, Accounting and Financial Quality 7/10, and Capital Allocation 6/10. Those five categories sum to 45/80. The valuation category is 3/20, taking the total to 48/100. The classification follows the CS decision rules: a score below 70, hard vetoes, or an implausible 20% case is sufficient for Reject. Sea meets all three rejection conditions.

2. Score Reductions and Reasons

No points are reduced. That is not a rubber stamp; it reflects the scorer's already conservative treatment of the evidence gaps.

Category 1 correctly gives 0/8 for ROIIC because credible three-year, five-year, and acquisition-inclusive ROIIC cannot be calculated from the governed inputs. The native five-year median ROIC is only about 0.8%, while the FY2025 statutory-NOPAT diagnostic is about 12.4%; the scorer correctly treats the difference as denominator-sensitive rather than claiming persistent high returns. The two points for non-deterioration are supported only as a partial operating-direction judgment: revenue, operating income, and FCF improved sharply from the loss years. They are not presented as a calculated ROIIC result.

Category 2's 16/20 is supportable because Shopee, Monee, and Garena are scaled platforms with substantial organic opportunity, but the score withholds the point for growth without ROIC collapse and does not give full credit for a repeatable playbook or market structure. Category 3's 8/15 is consistent with Moat YELLOW and 2046 YELLOW: Shopee has localized network density and advertising monetization, Monee has embedded distribution and data, and Free Fire has a real franchise graph, but multi-homing, credit-cycle uncertainty, and title concentration prevent a stronger durability score.

Category 4's 7/10 recognizes a zero-residual statutory bridge, strong current cash generation, and a net-cash balance sheet while withholding points for disclosure and governance. Category 5's 6/10 recognizes low acquisition spend and an organic reinvestment record while assigning zero to incentive alignment and owner mentality under the Management FAIL evidence. SBC remains a real expense, diluted shares rose materially, and buybacks are not treated as a free distribution.

Category 6's 3/20 is also preserved. The locked 12x/18x/24x exit P/Es are independently supported and all sit well below the comparable normalized current P/E of 44.679861x. The rubric's 6B wording does not expressly name the state in which an independently conservative exit multiple is below the normalized current multiple but the resulting return still misses the

hurdle; 3/4 is a reasonable partial score because the separate 6A, 6D, and 6E rows correctly award zero for the failed return, reverse-return, and price-perfection tests. No score has been manufactured by changing the exit multiples.

The subcategory audit is as follows. “Partly supported” means the evidence warrants the awarded partial points but does not support full marks; it is not a hidden score reduction.

Rubric subcategory	Original / audited	Audit status	Evidence conclusion
1A Normalized ROIC high	1/5	Supported	Five-year native median is positive but below 10%; FY2025 statutory diagnostic does not establish persistence
1B ROIIC high	0/8	Missing data	No credible reinvestment denominator; mandatory zero is correct
1C ROIIC not deteriorating	2/3	Partly supported	Profit and cash trends improved, but no numerical ROIIC series exists
1D Unit economics support returns	2/3	Partly supported	Shopee leverage and Monee profit are real; product and cohort economics remain incomplete
1E Cash conversion real	2/3	Partly supported	Multi-year FCF inflection is strong; lending and working-capital effects limit certainty
1F ROIC not an artifact	1/3	Partly supported	Statutory profit is real, but credit capital, leases, and denominator differences matter
2A Large remaining market	5/5	Supported	Commerce, advertising, payments, and credit adoption leave substantial runway
2B Proven reinvestment at scale	4/5	Partly supported	Three scaled platforms and profit repair support credit; high ROIIC is not proven
2C Organic opportunity	4/4	Supported	Low M&A and internal platform expansion support an organic runway
2D Repeatable playbook	2/3	Partly supported	Regional localization has repeated, but profitability and credit outcomes vary
2E Supportive market structure	1/2	Partly supported	Structural adoption helps, while intense platform and fintech competition persists
2F Growth without ROIC collapse	0/1	Missing data	No through-cycle ROIIC or Monee credit proof
3A Clear source of advantage	3/4	Supported	Shopee density, Monee data/distribution, and Free Fire franchise are identifiable
3B Pricing power	1/3	Partly supported	Clear mainly in Shopee advertising, not group-wide
3C Competitive evidence	2/3	Partly supported	Scale and growth are visible; competitors remain strong and multi-homing is common
3D Customer stickiness	1/2	Partly supported	Workflow and social-graph friction exist without strong contractual lock-in
3E Resilience through stress	1/2	Partly supported	Sea repaired losses, but current Shopee and Monee economics lack long-cycle proof
3F Low disruption risk	0/1	Unsupported for points	AI and attention shifts can pressure discovery, underwriting parity, and gaming supply
4A Clean revenue and earnings	2/2	Supported	FY2025 and TTM statutory bridges reconcile with zero residual
4B Cash flow supports earnings	2/2	Supported	FY2023-FY2025 FCF rose strongly; TTM capex caveat is disclosed
4C Conservative SBC/dilution	1/2	Partly supported	SBC is expensed and dilution modeled, but historical dilution remains material
4D Balance-sheet strength	2/2	Supported	USD 4.972373bn net cash after leases before restricted cash
4E Transparent disclosures	0/1	Missing data	Product P&Ls, credit cohorts, and country economics are absent

Rubric subcategory	Original / audited	Audit status	Evidence conclusion
4F No governance/accounting flags	0/1	Unsupported for points	Governance facts and litigation settlements prevent credit
5A Rational reinvestment priority	2/2	Supported	Organic R&D and platform investment dominate allocation
5B Acquisition discipline	2/2	Supported	Five-year M&A of USD 159m is small
5C Buyback discipline	1/2	Partly supported	Execution is material, but no intrinsic-value framework is disclosed and SBC absorbs much of it
5D Incentive alignment	0/2	Unsupported for points	Performance metrics and minority safeguards are inadequate
5E Owner mentality	0/1	Unsupported for points	Voting/economic mismatch and controller-adjacent governance block credit
5F Evidence from past decisions	1/1	Supported	The 2022-2023 profitability reset is concrete corrective evidence
6A Base-case IRR	0/6	Calculation verified	4.366496820879195% is below 10%
6B Conservative exit multiple	3/4	Partly supported	Exits are independently conservative and below normalized current P/E, but the hurdle still fails
6C Bear case acceptable	0/3	Calculation verified	-30.120508368499876% is unacceptable
6D Reverse-return hurdle beatable	0/3	Calculation verified	Required EPS is roughly twice modeled Base EPS
6E Price does not imply perfection	0/2	Supported at zero	Weak Base return and narrow P/E-15 cushion show demanding expectations
6F Cash returns help	0/2	Supported at zero	Distributions are explicitly zero; buybacks flow only through shares

3. Unsupported Claims

No material unsupported score-bearing claim was found. The scorer does not claim a numerical ROIIC, acquisition-inclusive ROIIC, five-year FCF conversion ratio, product-level reported P&L, or through-cycle Monee return. Instead, it labels those items insufficient or diagnostic and scores them conservatively.

Several operating inputs remain analyst estimates rather than issuer disclosures. Shopee's advertising, transaction, logistics, and sales-of-goods allocations are modeled attributions. Monee's credit/non-credit revenue split, country and product balances, originations, turnover, funding cost, and provision paths are scenario sensitivities. Garena does not disclose title-level revenue or profit, and Other Services does not disclose its constituent businesses. The reviewed segment appendices identify those limitations explicitly, and the scorer does not relabel them as primary-source facts.

The current FCF yield and TTM FCF are lower-confidence diagnostics because quarterly official releases do not disclose standalone cash PPE capex. This limitation is visible in the score appendix and is not used to claim persistent high ROIIC. Therefore it lowers source confidence to Medium but does not require a further score reduction.

4. Calculation Errors

No material calculation error was found.

The valuation preflight at `C:\Users\Admin\OneDrive\GPT\ER 2.0\Sea Limited\valuation_preflight.json` has SHA-256 `ce3371451a3d0d2a74069c4a91e2db24242ce2217faab8321098ce01d10683a9`. The repository validator returned `VALUATION_PREFLIGHT_VALID`. Status is `CLEARED`, all five foundations pass, blockers are empty, and CS reproduces the primary method, denominator bridge, instrument treatment, share paths, and exit multiples exactly.

Primary valuation method is **P/E** for Bear, Base, Bull, probability weighting, reverse return, maximum buy price, and net-SGD. The P/E bridge is `terminal statutory diluted EPS × exit P/E`, with zero cumulative distributions and no second cash/debt adjustment. Recalculated terminal values per ADS are USD 19.275558228, USD 143.239834512, and USD 400.480561752. On 657.022203m, 641.427114m, and 633.172653m diluted shares, these reproduce total terminal equity values of approximately USD 12.664470bn, USD 91.877914bn, and USD 253.573340bn.

The forward share paths reconcile from 634.487453m starting shares. Bear adds 7.006950m gross SBC shares and retires 2.500000m shares per year, ending at 657.022203m. Base adds 4.845746888m and retires 3.457814661m per year, ending at 641.427114m after whole-share presentation rounding. Bull adds 3.737040m and retires 4.000000m per year, ending at 633.172653m. Dilution is therefore included rather than hidden.

The current claim diagnostic also reconciles. Cash plus short-term investments is USD 9.098856bn. Gross debt excluding leases is USD 2.220627bn, and lease liabilities are USD 1.905856bn. Net cash is USD 6.878229bn before leases and USD 4.972373bn after leases, before restricted cash. Restricted cash of USD 2.461531bn is not counted as excess liquidity. Under P/E, none of those balance-sheet values is added to or subtracted from terminal share value because interest, financing cost, and NCI attribution are already embedded in statutory EPS. The double-count check passes.

Using USD 115.68 and exactly five years, the independently replayed gross USD IRRs are -30.120508368499876% Bear, 4.366496820879195% Base, and 28.19309480774752% Bull. Probability-weighted terminal wealth is `0.35 × 19.275558228 + 0.50 × 143.239834512 + 0.15 × 400.480561752 = USD 138.4384468986`. Annualizing that wealth gives 3.657251135742379%. The probability-weighted arithmetic average of the three scenario IRRs would instead be approximately -4.129965297%, proving that the published expected return is the required terminal-wealth CAGR and not an IRR average.

The net-SGD bridge also replays exactly. Starting outlay is SGD 149.7494952 per ADS after 1.29 USD/SGD and 0.35% entry friction. Applying scenario terminal FX of 1.20/1.23/1.26, 0.35% exit friction, and 0.10% annual custody drag to the same P/E terminal wealth gives net terminal SGD wealth of 22.934694233140583, 174.6922611460587, and 500.3302149555479. The audited net-SGD IRRs are -31.28911892933077%, 3.1292026113945326%, and 27.285306518183705%. Weighting terminal SGD wealth before annualizing gives 2.6201083383602386%. Zero distributions imply zero withholding amount.

The mandatory directional challenges also pass. The excessive-optimism test identifies the Bull stack clearly: 22.75% revenue CAGR, a 19.33% operating margin, Shopee and Monee success, a broader Garena audience, near-flat shares, and a 24x exit P/E must occur together. Bull is limited to 15%, and 24x remains near the low end of the cited SEA-platform reference rather than Sea's 44.68x normalized current P/E. The excessive-bearishness test also passes: Bear retains positive revenue growth, positive operating income, positive EPS, and a positive 12x terminal valuation. It does not use negative EPS, zero terminal equity, a method switch, or a disguised insolvency. Thus the multiple range is adverse but economically balanced.

5. Missing Data

The most important missing evidence is a credible total reinvestment denominator that incorporates growth opex, working capital, leased fulfillment capacity, Monee credit capital, regulatory capital, and acquisitions. Without it, three-year, five-year, and acquisition-inclusive ROIIC remain unavailable.

Monee lacks vintage loss curves, APR, duration, country exposure, funding cost, charge-offs, retained on-book economics, and product-level P&L. Shopee lacks advertising-dollar, fee, logistics-profit, and seller-return-on-ad-spend series. Garena lacks title-level bookings, revenue, profit, and pipeline economics. Other Services lacks product identity and unit economics. These gaps cap confidence and explain why Business Quality is 45/80 rather than a dream-business score.

Investor-specific tax wrapper, brokerage, and portfolio context are also unavailable. The net-SGD output is therefore a governed conservative diagnostic, not personalized advice or actionability authority.

6. Hard-Veto and Threshold Test Audit

The hard vetoes are evidence-backed. Diluted weighted shares rose from 532.706m in FY2021 to 638.227m in FY2025, a 19.8% increase without established per-share value creation. Management is FAIL because the founder controls 57.6% of votes with 16.0% statutory beneficial ownership, the board is not majority independent, compensation and nomination are founder-chaired, and ordinary shareholder approval is not required for the equity plan. Current valuation is also a veto because Base gross USD IRR is only 4.37% and probability-weighted gross USD IRR is 3.66%.

The Investable-now thresholds do not pass: total score is below 80/100; Business Quality is below 65/80; valuation is below 15/20; ROIIC plus runway is 24/45 rather than at least 35/45; Base IRR is below 20%; Bear IRR is far below 8%-10%; and hard vetoes remain. Only the no-multiple-expansion test passes. Management FAIL also means ER2 BUY is unavailable regardless of the narrow 3.19% P/E-15 cushion. Moat YELLOW and 2046 YELLOW add unresolved durability risk.

7. Final 20% Hurdle Pass/Fail

FAIL. At the locked Base exit P/E of 18x and zero distributions, a 20% annualized return requires terminal wealth of USD 287.8488576 and terminal EPS of USD 15.9916032. Base modeled terminal EPS is only USD 7.957768584. The required EPS CAGR from current statutory EPS is 44.1451%, versus modeled Base EPS CAGR of 25.3660%. Maximum buy price for a 20% annualized Base return is USD 57.5648769097, about half the current USD 115.68 price.

8. Dream Business / Dream Investment Classification

Neither. Sea is promising and has scaled assets, but durable high ROIIC, Monee through-cycle economics, group-wide pricing power, and 2046 resilience are not proven. The current price is not a dream-investment setup because the Base and probability-weighted returns are low even after a large compression from normalized current P/E to the locked Base exit P/E.

The single biggest reason Sea does not qualify is that the current price capitalizes demanding operating success without providing an adequate Base or probability-weighted return, while the Management FAIL removes the possibility of compensating for that weakness with governance confidence.

9. Stage 7 Scorecard Notes

- Compounder Score note: **48/100; promising scaled platforms do not overcome unresolved ROIIC, governance, dilution, and expected-return weaknesses.**
- Business Quality Score note: **45/80; runway is substantial, but durable high incremental returns and through-cycle Monee and Garena proof remain insufficient.**
- 20% Return UW Score note: **3/20; Base gross USD IRR is 4.37% and probability-weighted gross USD IRR is 3.66%, far below the stretch hurdle.**

10. Auditor JSON

The full-precision companion is `C:\Users\Admin\OneDrive\GPT\ER 2.0\Sea Limited\compounder_score_audit.json`. It records the VP hash, audited scores, gross and net-SGD return replays, exit-multiple integrity, claim-perimeter checks, missing data, and authority flags.

SCORING AUDIT COMPLETE - AUDITED SCORE CLEARED FOR STAGE 7

Appendix RT - Red Team

Sea Limited — Red Team

Report ID: `SE-ER2-20260825T060138+0800` Run ID: `pulse-cio-20260825T060138+0800` Security reviewed: `XNYS:SE` ADS, one ADS per ordinary share Authority: diagnostic challenge only; no trade, portfolio, ranking, or sizing authority.

1. The most fragile assumption

The most fragile assumption is **Shopee Base terminal profitability**, specifically the move from a 2.66% TTM `Operating segment income (loss)` margin to **10.70% on USD 44.747 billion of 2031 revenue**. This is more fragile than the headline 17.51% five-year Shopee revenue CAGR. Revenue growth has a current observable anchor—Q2 2026 revenue grew 48.2%, GMV 28.4%, and orders 27.5%—but the margin has only four recent quarterly observations between 2.43% and 2.87%. The Base therefore asks monetization, advertising mix, logistics density, direct-goods discipline, and competitive spending to deliver 804 basis points of terminal leverage from a very short positive-margin record.

The segment appendix is candid that the product P&Ls are analyst attributions: advertising dollars, seller return on ad spend, transaction-fee economics, and logistics profit are not disclosed. It also acknowledges that the prior 15.61% Base margin was too high. The revised 10.70% is better disciplined, but it remains the largest single profit lever. A 200-basis-point miss—8.70% rather than 10.70%, holding the synthesis's tax, NCI, shares, other segments, and 18x P/E constant—reduces terminal operating income by roughly USD 0.895 billion, attributable EPS from USD 7.9578 to about USD 7.0069, terminal wealth from USD 143.24 to about USD 126.12, and Base gross IRR from 4.37% to about **1.74%**. That 2.62-point IRR effect is economically material, even though it is a sensitivity rather than a correction to the audited bridge.

2. The most-likely-to-be-optimistic Stage 5 number

The single Stage 5 number most likely to be revised down is the **Base 2031 statutory operating margin of 12.58%**. It embeds Shopee at 10.70%, Monee at 20.27%, Garena at 44.00%, Other Services at negative 20.00%, and unallocated expense at only 1.50% of revenue. Every component is individually arguable; the optimism lies in receiving all of them together.

The weakest support is not arithmetic but observability. Shopee needs a large margin step without product P&Ls; Monee must hold roughly its current margin while its loan book doubles to USD 22.795 billion without vintage, APR, duration, charge-off, country, funding-cost, or retained-on-book disclosure; Garena must preserve nearly all current profit despite franchise concentration and pipeline costs; and corporate expense must fall from 2.17% to 1.50% of revenue. A model can reconcile perfectly and still be wrong because correlated execution friction has been split into several apparently modest assumptions.

3. Strongest bear case, stated in its strongest form

Sea is priced as though three different risk engines mature benignly at once. Shopee remains a low-margin marketplace that must keep buying service quality against TikTok Shop, Lazada, and Mercado Libre; Monee's 62.5%-growing loan book is too young for the 1.0% 90-day NPL ratio to prove ultimate losses; and Garena's current cash generation still depends on a concentrated game franchise whose bookings growth slowed from 51.1% to 15.5% across four quarters. Within two years, higher Shopee incentives, Monee provisions and funding costs, and weaker Garena bookings could reveal that consolidated profitability was a favorable mix moment rather than durable economics. The confirming evidence would be Shopee margin below 2%, Monee margin below 15% with 90-day NPL above 2%, and rolling-four-quarter Garena bookings turning negative before recognized revenue fully reflects the demand decline.

This case attacks the profit pool, not Sea's survival. Sea has USD 4.972 billion of net cash after leases before restricted cash, and even audited Bear preserves positive revenue, operating income, and EPS. The short thesis is therefore valuation compression and earnings de-scaling, not insolvency.

4. Cross-examination of management commentary

Statement	Skeptical reading	First evidence management is wrong
Shopee, Q2 2026: “achieve the milestone of US$1 billion in adjusted EBITDA”	Adjusted EBITDA is not the sealed statutory segment metric and can improve while incentives, SBC, or unallocated costs continue to burden common-shareholder EPS. The five-year model needs much more than the near-term milestone: a 10.70% statutory segment margin.	Shopee GMV remains above 15% but statutory segment margin stays below 3% for the next two quarters, or incentives grow faster than GMV.
Monee, Q2 2026: “great confidence in Monee's long-term growth and earnings potential”	The claim outruns the evidence perimeter. Quarterly segment margin fell from 25.07% to 19.89% while loans grew 62.5%; management discloses neither vintages nor risk-adjusted yield. Growth can amplify adverse selection before aggregate NPL reveals it.	Provisions grow faster than average loan principal for two quarters, 90-day NPL exceeds 2%, or segment margin falls below 15%.
Garena, Q2 2026: “work towards diversifying our portfolio”	A pipeline announcement is cost evidence before it is revenue evidence. The reviewed model correctly assigns zero separate title dollars, while aggregate bookings growth is already decelerating.	Rolling-four-quarter bookings turn negative and no new title shows 180-day retention plus material bookings contribution.

The quotes are short extracts preserved in `data_package.md` §6 from the dated Sea calls. The red-team objection is not that management must disclose a five-year forecast. It is that each statement describes direction while the model supplies the unit-economics precision that management does not.

5. Stage 5 tie-out reverification

The recency anchor is not stale. TTM correctly comprises Q3 2025 through Q2 2026, with standalone flow quarters and a separately reconciled weighted-share bridge. Base first-forward-year revenue of USD 34.344 billion is 23.88% above TTM, but it represents deceleration from the latest 48.2% Shopee, 58.9% Monee, and 33.5% Garena revenue growth. The concern is quality of growth, not a stale starting level: Garena bookings growth has slowed sharply, and Monee margin has compressed while its balance sheet expanded.

The share path is directionally reasonable but low confidence. It starts at 634.487 million shares, expenses the full USD 560.556 million of TTM SBC, estimates gross issuance as SBC divided by a scenario share price, and separately models buybacks. This avoids treating buybacks as distributions and avoids claiming that they erase SBC. Yet Base assumes five annual USD 400 million repurchases and program renewal at a constant USD 115.68 purchase price. If the stock appreciates toward modeled terminal value, fewer shares are retired; if it falls, more are retired. The resulting error is likely smaller than the operating-margin uncertainty, but the 641.427 million Base endpoint is an analyst construct, not a contractual count.

No segment CAGR obviously violates its reviewed history without a named reason. The vulnerable exceptions are Shopee advertising at 23.71% without a disclosed dollar series, Monee at 15.1% without product or cohort history, and Garena at 4.02% despite bookings deceleration. Garena at least receives a conservative endpoint and zero separate pipeline credit. The model's problem is not reckless extrapolation of reported growth; it is assigning precise terminal economics to opaque sub-products.

6. Score-derived 20% return claim

The audited score does **not** say that a 20% return is plausible, and the red team agrees. At USD 115.68, five years, zero distributions, and the locked 18x Base exit P/E, a 20% return requires terminal wealth of USD 287.8489 and EPS of USD 15.9916. That is roughly twice modeled Base EPS of USD 7.9578 and requires a 44.15% EPS CAGR versus the modeled 25.37%. Alternatively, using modeled Base EPS would require an exit P/E of about **36.17x**, twice the locked 18x mature-platform reference.

The assumption most likely to break any score-derived 20% claim is terminal EPS, specifically Shopee margin plus Monee credit economics. Buybacks and dividends cannot rescue the case: distributions are zero, and Base buybacks do not even offset modeled SBC issuance. The audited 3/20 return score is therefore directionally correct. A 20% case needs a different operating outcome or approximately USD 57.56 entry price, not a cosmetic multiple adjustment.

7. Two-sided valuation challenge

Strongest reason the model may be too optimistic

The Base P/E itself is not the main optimism. The risky input is the terminal EPS to which 18x is applied. A two-point Shopee margin miss reduces Base IRR from 4.37% to 1.74%, while a four-point miss turns it negative at about -1.18%. The downside can also be amplified by Monee: each 100 basis points of additional provisions on the modeled Base average principal costs

about USD 0.213 billion pre-tax. Neither sensitivity requires recessionary collapse. They require only that competitive reinvestment and loan seasoning absorb more of the apparent scale benefit.

The probability design is also consequential. The 35/50/15 weights are not an average of the segment probabilities; they are a joint-state judgment. Because terminal wealth is extremely convex—USD 19.28 / USD 143.24 / USD 400.48—moving only five percentage points from Bull to Bear changes expected gross IRR from 3.66% to about 0.63%. That does not prove the audited weights are wrong: Bull requires simultaneous success, and common macro/ecosystem risks make segment outcomes correlated. It does show that 3.66% is a fragile expectation, not a precise forecast.

Strongest reason the model may be too bearish

Bear stacks mutually reinforcing failures: Shopee growth slows and its margin remains thin, Monee credit economics reset, Garena revenue contracts 10.12% annually, Other Services remains deeply loss-making, shares dilute, distributions stay zero, and the exit P/E falls to 12x. Yet the same case still has 7.79% revenue CAGR, positive USD 1.648 billion operating income, positive EPS, and a solvent net-cash starting balance sheet. A 12x multiple may therefore over-penalize a profitable, diversified going concern.

Holding Bear EPS fixed, 15x raises terminal wealth from USD 19.28 to USD 24.09 and IRR from -30.12% to -26.93%; 18x raises wealth to USD 28.91 and IRR to -24.22%. Bear remains unacceptable under either sensitivity, so the investment conclusion does not depend on 12x. The zero-distribution assumption is likewise punitive if Sea's present buyback cadence evolves into genuine cash return, but it is methodologically defensible because dividends have never been paid and buybacks already enter the share path. Adding current net cash after `EPS × P/E` would be double counting, not conservatism repair.

8. Method, denominator, claims, FX, and friction audit

The mandatory return bridge reproduces in full from USD 115.68 over exactly 5.0 years. Scenario probabilities are 35% / 50% / 15%, and cumulative distributions are zero in every state.

Locked return field	Bear	Base	Bull	Probability-weighted
Terminal statutory diluted EPS, USD/ADS	1.606296519	7.957768584	16.686690073	Not used as return shortcut
Terminal diluted shares, millions	657.022203	641.427114	633.172653	Scenario-specific
Exit P/E	12.00x	18.00x	24.00x	Scenario-specific
Terminal shareholder wealth, USD/ADS	19.275558228	143.239834512	400.480561752	138.4384468986
Gross USD IRR	-30.1205083685%	4.3664968209%	28.1930948077%	3.6572511357%
Net-SGD IRR	-31.2891189293%	3.1292026114%	27.2853065182%	2.6201083384%

Audit item	Red-team conclusion
Primary method	P/E is the least-bad controlling method. Statutory attributable diluted EPS is reconciled and positive in all cases. EV/NOPAT lacks a terminal cash/debt/lease/senior-claim path; P/B-ROE lacks a zero-residual parent-common-equity roll-forward.
Current denominator	Reported TTM EPS of USD 2.569759878 gives 45.0159x; normalized EPS of USD 2.589085926 gives 44.6799x. The normalization is only 0.75%, and both use the same one-ADS-per-share statutory perimeter as terminal EPS. Comparability passes.
Peer multiples	Peer P/Es remain native provider ratios and are explicitly not relabeled as Sea's sealed P/E. That is honest but less robust than peer-by-peer normalized earnings. The 18x Base and 24x Bull multiples should therefore be read as broad ranges, not false precision.
Claims and cash	P/E correctly makes no terminal cash/debt/lease add-back. Interest, financing costs, and NCI attribution are already inside EPS. The 2.636483% NCI earnings proxy is a disclosure-driven approximation; an ownership change would require VP rerun.
Dilution and distributions	SBC is expensed and gross issuance is modeled once; buybacks affect shares once; dividends and withholding are zero. No distribution is double counted.
Expected return	USD 138.4384468986 is probability-weighted terminal wealth. Its five-year CAGR is 3.6572511357%; it is correctly not the -4.13% arithmetic average of scenario IRRs.

Audit item	Red-team conclusion
Net-SGD overlay	Same P/E wealth is used with 1.29 entry FX, 1.20/1.23/1.26 terminal FX, 0.35% entry/exit friction, and 0.10% annual custody drag. Arithmetic reproduces -31.2891% / 3.1292% / 27.2853%, expected 2.6201%. It is a governed diagnostic, not investor-specific advice.

Sea is not a P&C insurer or reinsurer, so the insurer-return-bridge cross-examination is **not triggered**. No `insurer_return_bridge.json` is required.

`RETURN_MODEL_OBJECTION_STATUS: MATERIAL_RESOLVED`

Exact reference token: `VALUATION_PREFLIGHT_VALID`; locked VP SHA-256 `ce3371451a3d0d2a74069c4a91e2db24242ce2217faab8321098ce01d10683a9`; CSA clearance token `SCORING AUDIT COMPLETE - AUDITED SCORE CLEARED FOR STAGE 7`. The audited files already incorporate the potentially material method, denominator, double-count, terminal-wealth weighting, and net-SGD objections. The Shopee and probability tests above are material forecast sensitivities, but they do not expose a same-stage arithmetic or valuation-method correction. No CS/CSA repair is required.

9. The signal that forces an exit

The forcing signal is **Shopee** `Operating segment income (loss)` **margin below 2.0% for two consecutive reported quarters while GMV still grows at least 15% year on year**. Check it at each of the next two earnings releases. That combination would show that scale and transaction growth are not converting into retained economics even before growth has matured. It would directly invalidate the model's most important bridge from a 2.66% TTM margin to 10.70% in Base. A single weak quarter can reflect campaign timing; two quarters with healthy GMV but sub-2% statutory segment margin means the profit mechanism, not merely demand, is failing.

10. Conviction after red team

Thesis does not survive as a current investment thesis. Sea may remain an excellent operator with valuable platforms, but the security offers only 4.37% Base gross USD IRR, 3.66% expected gross USD IRR, and 2.62% expected net-SGD IRR before investor-specific facts. The narrow 3.19% P/E-15 screen cushion does not compensate for a 48/100 audited score, Management FAIL, Moat YELLOW, 2046 YELLOW, unseasoned credit, and concentration of current profit in Garena.

The narrative should be rewritten around **proof before price**: Shopee must demonstrate durable statutory margin without subsidy relapse; Monee must disclose and survive cohort seasoning; Garena must establish a second durable bookings pool; and governance must improve. Until then, upside exists but the expected return is too low and too dependent on terminal margin precision for a full ER2 BUY. Management FAIL independently prevents BUY regardless of the return sensitivity.

Appendix D - Data Package (Raw Historicals)

Sea Limited (NYSE: SE) — ER2 Data Package

Action: CIO-20260822-SE-FULL-ER2 **Run:** pulse-cio-20260825T060138+0800 **Information cutoff:** 2026-08-25T06:01:38+08:00 **Fiscal year end:** December 31 **Latest completed quarter:** Q2 2026, ended 2026-06-30 **TTM base:** Q3 2025 + Q4 2025 + Q1 2026 + Q2 2026, ended 2026-06-30 **Exact five-year horizon:** 2031-06-30 **Reporting currency:** US dollars; tables use US$ millions unless explicitly marked US$ thousands. **Authority boundary:** Research evidence only. No trade, portfolio, ranking, sizing, message, or execution authority. `trade_execution_authorized=false`.

The QFR-cleared quantitative foundation is the controlling financial source. The exact-byte statutory packet was independently checked before this package was written: `STATUTORY_BRIDGE_SHA256: 0ab960edaa262fb4fc1f2090d6e90a17ea720d6dfd6d92be220fab8d211bc271`. The sealed quote packet remains `c74da8bc0985413d450e6454e9e3f7ca08e79017629340dab48baff3e141b2dd`. Neither packet was modified.

0a. Industry classification and disclosure inventory

Sea is a Singapore-headquartered consumer-technology group and U.S.-listed foreign private issuer. It reports under U.S. GAAP through Form 20-F and Form 6-K rather than Forms 10-K and 10-Q. Its three named core platforms are Shopee, Monee, and Garena. Financial reporting, however, requires two linked taxonomies: the issuer's revenue presentation separates e-commerce or Shopee service revenue, digital financial services or Monee service revenue, digital entertainment or Garena service revenue, Other Services, and sales of goods; the QFR-sealed segment-profit bridge uses the exact modeled labels **Shopee, Monee, Garena, and Other Services** on the exact profit basis **Operating segment income (loss)**. Sales of goods is a revenue nature, not a separate profit-reporting segment. This package preserves both views and never assigns all sales of goods to Shopee.

FMP segment and product data are not decision-grade for Sea. The live annual product endpoint's FY2025 row totals only US$1,434.432 million and uses `Inter-companies` and `Third Party Customers`; older rows contain unrelated energy-pipeline labels such as Distribution and Spectra Energy Partners. The live quarterly endpoint stops at Q2 2021 and contains the same ticker-history collision. Official Form 20-F and 6-K tables therefore control current segment, product, and KPI evidence. FMP remains useful for consolidated statement scaffolding, subject to the QFR-disclosed operating-income, pretax-classification, cash, and share-basis repairs.

Live source inventory

Source ID	Source fetched in this run	Period or purpose	Status and use
S20F	[FY2025 Form 20-F](https://www.sec.gov/Archives/edgar/data/1703399/000114036126015366/ef20067274_20f.htm)	FY2025 and comparative annual history	Controlling annual filing; DR's direct live fetch matched QFR's 5,641,014-byte archive and SHA-256 exactly
S20F-H	[FY2024](https://www.sec.gov/Archives/edgar/data/1703399/000119312525084311/d940352d20f.htm); [FY2023](https://www.sec.gov/Archives/edgar/data/1703399/000114036124022429/ef20015280_20f.htm); [FY2022](https://www.sec.gov/Archives/edgar/data/1703399/000114036123017021/brhc10050860_20f.htm); [FY2021](https://www.sec.gov/Archives/edgar/data/1703399/000114036122015578/brhc10036000_20f.htm) Forms 20-F	Five-year official KPI backfill	Live-fetched by DR; Shopee and Garena operating-metric tables control the historical series
SQ4-H	[FY2024 results](https://www.sec.gov/Archives/edgar/data/1703399/000119312525045576/d930776dex991.htm); [FY2023 results](https://www.sec.gov/Archives/edgar/data/1703399/000110465924030484/tm247857d1_ex99-1.htm); [FY2022 results](https://www.sec.gov/Archives/edgar/data/1703399/000110465923029545/tm238717d1_ex99-1.htm); [FY2021 results](https://www.sec.gov/Archives/edgar/data/1703399/000110465922028659/tm228005d1_ex99-1.htm)	Five-year official KPI backfill and Monee perimeter changes	Live-fetched by DR; used only on the exact disclosure basis labeled below

Source ID	Source fetched in this run	Period or purpose	Status and use
SQ3	[Q3 2025 Exhibit 99.1](https://www.sec.gov/Archives/edgar/data/1703399/000119312525275616/d75589dex991.htm)	Quarter ended 2025-09-30	Controlling current-quarter release and segment/KPI table
SQ4	[Q4 and FY2025 Exhibit 99.1](https://www.sec.gov/Archives/edgar/data/1703399/000119312526088151/d106475dex991.htm)	Quarter and year ended 2025-12-31	Controlling FY2025 and Q4 release
SQ1	[Q1 2026 Exhibit 99.1](https://www.sec.gov/Archives/edgar/data/1703399/000119312526219378/d78490dex991.htm)	Quarter ended 2026-03-31	Controlling Q1 release
SQ2	[Q2 2026 Exhibit 99.1](https://www.sec.gov/Archives/edgar/data/1703399/000119312526344596/d120948dex991.htm)	Quarter and half ended 2026-06-30	Controlling latest-quarter release
IR-Q2	[Sea Q2 2026 results PDF](https://cdn.sea.com/investor/2Q2026/wFBC39MbqnfLb3MGY6LP/2026.08.11%20Sea%20Second%20Quarter%202026%20Results.pdf)	Latest official issuer release	Live-fetched; ties to SQ2
IR-Q2-Deck	[Sea Q2 2026 results deck](https://cdn.sea.com/investor/2Q2026/wFBC39MbqnfLb3MGY6LP/2026.08.11%20Sea%20Second%20Quarter%202026%20Results%20Deck.pdf)	Current presentation	Live-fetched and inventoried; no conflicting KPI family found
IR-Q2-Info	[Sea Q2 2026 infographic](https://cdn.sea.com/investor/2Q2026/wFBC39MbqnfLb3MGY6LP/2026.08.11%20Sea%20Second%20Quarter%202026%20Results%20Infographic.pdf)	Current summary	Live-fetched and inventoried
IR-Q2-Call	[Sea Q2 2026 earnings-call transcript](https://cdn.sea.com/investor/2Q2026/wFBC39MbqnfLb3MGY6LP/2026.08.11%20Sea%20Second%20Quarter%202026%20Earnings%20Call%20Transcript.pdf)	Call dated 2026-08-11	Live-fetched official transcript
FMP-A	`/stable/income-statement`, `balance-sheet-statement`, `cash-flow-statement`, `key-metrics`; symbol SE; period annual	FY2020-FY2025	Live-fetched; consolidated history with disclosed official overrides
FMP-Q	Same statement families; symbol SE; period quarter	Eight quarters through Q2 2026	Live-fetched; official releases control differences
FMP-P	`/stable/revenue-product-segmentation`; annual and quarter	Product/segment completeness test	Live-fetched; ticker-collided or stale, excluded from current taxonomy
FMP-T	`/stable/earning-call-transcript-dates` and exact Q3 2025 through Q2 2026 transcripts	Four-call evidence	Live-fetched; dates match 2025-11-11, 2026-03-03, 2026-05-12, and 2026-08-11

All 14 new FMP JSON datasets are archived under `raw/pulse-cio-20260825T060138+0800/D` and copied without overwrite to `C:\Users\Admin\OneDrive\Cowork\Investing\data warehouse\FMP\SE\pulse-cio-20260825T060138+0800`. The warehouse copies are archival only and were not used as evidence.

The official documents were searched for: segment, operating segment income, adjusted EBITDA, service revenue, sales of goods, marketplace revenue, transaction-based fees, advertising, value-added services, logistics, GMV, gross orders, active buyers, sellers, loans principal outstanding, on-book, off-book, non-performing loans, provision for credit losses, bookings, deferred revenue, quarterly active users, quarterly paying users, paying user ratio, average bookings per user, cash, restricted cash, investments, debt, leases, repurchases, shares, guidance, and taxonomy or rebranding.

Dataset or table family	Official source searched	Years available	Included?	If excluded, why	Downstream relevance
Consolidated statements	FY2025 20-F; four current 6-K releases	FY2021-FY2025 plus Q3 2025-Q2 2026	Yes	N/A	Synthesis, valuation, ROIC
Segment revenue and Operating segment income (loss)	20-F segment note; 6-K reconciliations	FY2021-FY2025 plus current four quarters	Yes	N/A	Segment forecasts and statutory bridge

Dataset or table family	Official source searched	Years available	Included?	If excluded, why	Downstream relevance
Revenue nature and product tables	20-F; current releases	FY2021-FY2025 plus current four quarters	Yes	No fabricated sub-product allocation	Product history and monetization
Shopee GMV, orders, marketplace mix	FY2021-FY2025 20-Fs and annual results; current releases, deck, transcript	FY2021-FY2025 plus current four quarters	Yes	Advertising-dollar history remains a true non-disclosure	Shopee growth and moat
Monee lending and asset quality	FY2021-FY2025 20-Fs and annual results; current releases and transcripts	FY2021-FY2025 to the extent comparable plus current four quarters	Yes	Cohort and country-level credit tables are true non-disclosures; perimeter breaks are labeled	Credit growth and loss guardrails
Garena bookings and users	FY2021-FY2025 20-Fs and annual results; current releases and transcripts	FY2021-FY2025 plus current four quarters	Yes	Game-title revenue is not disclosed	Durability and revenue recognition
Q2 presentation and infographic	Sea IR dynamic quarterly-results page	Q2 2026	Inventoried and checked	Not reproduced separately because release already contains controlling figures	Completeness and recency
Investor day or capital-markets-day package	Sea IR quarterly and annual inventory	None identified in current source set	No	True non-disclosure after Sea IR inventory search	Management-forward evidence

Material KPI history

KPI family	Granularity	FY2021	FY2022	FY2023	FY2024	FY2025	Latest interim	Source
Revenue	Consolidated, US$bn	9.96	12.45	13.06	16.82	22.94	TTM 27.72	FMP-A with official FY2025 override
Shopee revenue	Segment, US$bn	5.12	7.29	9.00	12.42	16.56	TTM 19.97	Official annual and current 6-K tables
Monee revenue	Segment, US$bn	0.47	1.22	1.76	2.37	3.79	TTM 4.77	Official annual and current 6-K tables
Garena revenue	Segment, US$bn	4.32	3.88	2.17	1.91	2.41	TTM 2.80	Official annual and current 6-K tables
Shopee GMV	Annual, US$bn	62.5	73.5	78.5	100.5	127.4	Q2 2026 38.3	Prior 20-Fs and annual results; SQ2
Shopee gross orders	Annual, bn	6.1	7.6	8.2	10.9	13.9	Q2 2026 4.2	Prior 20-Fs and annual results; SQ2
Monee loan-scale measure	Year or quarter end, US$bn	1.501*	2.054*	3.1	5.1	9.2	Q2 2026 11.1	Prior annual results; SQ4 and SQ2
Monee 90-day NPL ratio	Year or quarter end	N/D	<2%**	1.6%***	1.2%	1.1%	Q2 2026 1.0%	Prior annual results; SQ4 and SQ2
Garena bookings	Annual or quarter, US$bn	4.6	2.8	1.8	2.1	2.9	Q2 2026 0.764	Prior annual results; SQ4 and SQ2
Garena average quarterly active users	Average of four reported quarters, m	689.3	572.2	527.2	622.3	657.7	Q2 2026 666.3	Prior 20-F operating-metric tables; SQ2
Garena average quarterly paying users	Average of four reported quarters, m	85.6	53.2	40.2	50.5	62.6	Q2 2026 68.1	Prior 20-F operating-metric tables; SQ2

The five-year KPI backfill was independently rebuilt from live SEC sources rather than the collided FMP product endpoint. Shopee's FY2021 values come from the [FY2021 results release](https://www.sec.gov/Archives/edgar/data/1703399/000110465922028659/tm228005d1_ex99-1.htm); FY2022 comes from the FY2022 20-F quarterly table; and FY2023-FY2025 come from the [FY2023](https://www.sec.gov/Archives/edgar/data/1703399/000110465924030484/tm247857d1_ex99-1.htm), [FY2024](https://www.sec.gov/Archives/edgar/data/1703399/000119312525045576/d930776dex991.htm), and [FY2025](https://www.sec.gov/Archives/edgar/data/1703399/000119312526088151/d106475dex991.htm) results. Garena annual average users are arithmetic averages of the four issuer-reported quarterly observations, not an issuer-labeled annual average.

Monee's credit history has an explicit perimeter break. * FY2021 and FY2022 are consolidated loans receivable net of allowance, not principal outstanding. ** FY2022's NPL ratio is on total gross loans receivable after a write-off-period change; Sea stated the ratio would have been about 5% without that change. *** FY2023 is 90-day NPL on on-book loans only. FY2024 onward uses total on-book plus off-book consumer and SME loans principal, so the later values must not be treated

as a perfectly comparable growth or loss-rate series.

1. Reporting structure and taxonomy

The exact current modeled segments are:

Modeled segment	Issuer description	FY2025 revenue	Share of FY2025 revenue	Exact sealed profit metric
Shopee	E-commerce marketplace, advertising, logistics and related services; segment revenue includes allocated sales of goods	16,564.6	72.2%	Operating segment income (loss)
Monee	Digital financial services, primarily consumer and SME credit, plus payments, banking, insurtech and wealth services	3,791.6	16.5%	Operating segment income (loss)
Garena	Digital entertainment, including game development and publishing	2,408.8	10.5%	Operating segment income (loss)
Other Services	Activities below reportable-segment quantitative thresholds	173.5	0.8%	Operating segment income (loss)

The presentation changed during 2025. Sea announced the rebranding of SeaMoney to Monee on 2025-05-08. Q3 2025's official release still headings its business highlights as **E-commerce**, **Digital Financial Services**, and **Digital Entertainment**, while Q4 2025 and 2026 releases use **Shopee**, **Monee**, and **Garena**. The underlying segment bridge remains economically continuous, and the FY2025 20-F provides current-label comparative data. This package uses the QFR-sealed current labels in all projection-facing tables and preserves the older issuer wording when citing older releases.

The revenue-nature taxonomy is not identical to the profit-segment taxonomy. The quarterly statement of operations reports service revenue plus sales of goods. The revenue breakdown further splits service revenue into Shopee, Monee, Garena, and Other Services. The segment revenue table then assigns most, but not necessarily all, sales of goods into Shopee and a small amount into Other Services. For Q2 2026, service revenue was Shopee 4,931.861, Monee 1,402.830, Garena 746.603, and Other Services 48.759, plus sales of goods 657.726. The segment bridge is Shopee 5,587.577 and Other Services 50.769, proving that a mechanical “Shopee equals Shopee service plus all sales of goods” mapping is wrong by US$2.010 million in that quarter.

Geographic revenue is broad across Southeast Asia, Taiwan, Brazil, and other markets, but the current official releases do not provide an additive geography-by-segment operating-profit table. No geography profit split is invented. Shopee is identified as the largest e-commerce platform in Southeast Asia and Taiwan and a leading platform in Brazil; Monee operates primarily in Southeast Asia with a growing Latin American presence; Garena is global.

2. Consolidated historicals

Metric	FY2021	FY2022	FY2023	FY2024	FY2025	Source
Revenue, US$bn	9.955	12.450	13.064	16.820	22.938	FMP-A; S20F/SQ4 control FY2025
Operating income, US$bn	-1.583	-1.488	0.225	0.662	1.985	FMP-A; official FY2025 overrides FMP 1.864
Operating margin	-15.9%	-11.9%	1.7%	3.9%	8.7%	Calculated
Net income attributable, US$bn	-2.047	-1.651	0.151	0.444	1.578	FMP-A and S20F
Diluted EPS, US$	-3.84	-2.96	0.25	0.74	2.52	FMP-A; S20F controls FY2024-FY2025
Diluted weighted shares, m	532.7	558.1	594.4	604.7	638.2	FMP-A and S20F
Cash PPE capex, US$bn	0.807	0.976	0.258	0.322	0.514	FMP-A; official FY2025
Free cash flow, US$bn	-0.599	-2.032	1.821	2.956	4.511	OCF less cash PPE capex; official FY2025
FMP native ROIC	-13.3%	-14.2%	0.8%	3.0%	8.1%	FMP key-metrics, native provider basis

ROIC is a diagnostic rather than an issuer KPI. The table preserves FMP's native denominator and numerator for comparability. A separate FY2025 statutory-NOPAT check uses official operating income 1.985306, tax expense 0.651081, pretax income 2.280859, and FMP invested capital 11.417652: NOPAT is `1.985306 × (1 - 0.651081 / 2.280859) = 1.418579`; the resulting diagnostic is `1.418579 / 11.417652 = 12.4%`. The difference from FMP's native 8.10% is a numerator/classification warning. Downstream work must not call either measure persistent 20% economics without a denominator audit.

The current TTM is revenue 27.723160, statutory operating income 2.284499, total net income 1.682203, attributable net income 1.637852, and official-source diluted weighted shares 637.356 million. TTM diluted EPS is US$2.569760 per ordinary share and per ADS under the sealed 1:1 bridge. FMP's unsupported standalone-Q2 diluted-share observation of 654.451 million is excluded.

3. Segment historicals

Historical labels before the 2025 rebrand are mapped to current segment names only where the economic line is continuous. Every profit row uses the exact sealed issuer label.

Shopee

Shopee	FY2021	FY2022	FY2023	FY2024	FY2025	Source
Revenue, US$bn	5.123	7.289	9.001	12.415	16.565	Official 20-F segment tables
YoY growth	N/A	42.3%	23.5%	37.9%	33.4%	Calculated; SQ4 confirms FY2025
Operating segment income (loss), US$bn	-2.767	-2.013	-0.550	-0.139	0.581	Official 20-F; sealed FY2025
Margin on Operating segment income (loss)	-54.0%	-27.6%	-6.1%	-1.1%	3.5%	Calculated

Monee

Monee	FY2021	FY2022	FY2023	FY2024	FY2025	Source
Revenue, US$bn	0.470	1.222	1.759	2.368	3.792	Official 20-F segment tables
YoY growth	N/A	160.1%	44.0%	34.6%	60.1%	Calculated; SQ4 confirms FY2025
Operating segment income (loss), US$bn	-0.640	-0.277	0.490	0.658	0.973	Official 20-F; sealed FY2025
Margin on Operating segment income (loss)	-136.3%	-22.7%	27.9%	27.8%	25.7%	Calculated

Garena

Garena	FY2021	FY2022	FY2023	FY2024	FY2025	Source
Revenue, US$bn	4.320	3.877	2.172	1.911	2.409	Official 20-F segment tables
YoY growth	N/A	-10.3%	-44.0%	-12.0%	26.1%	Calculated; SQ4 confirms FY2025
Operating segment income (loss), US$bn	2.500	1.971	1.178	0.979	1.184	Official 20-F; sealed FY2025
Margin on Operating segment income (loss)	57.9%	50.8%	54.2%	51.2%	49.2%	Calculated

Other Services

Other Services	FY2021	FY2022	FY2023	FY2024	FY2025	Source
Revenue, US$bn	0.042	0.062	0.131	0.126	0.173	Official 20-F segment tables
YoY growth	N/A	45.8%	112.2%	-3.8%	37.3%	Calculated
Operating segment income (loss), US$bn	-0.178	-0.252	-0.057	-0.044	-0.091	Official 20-F; sealed FY2025

Other Services	FY2021	FY2022	FY2023	FY2024	FY2025	Source
Margin on Operating segment income (loss)	-418.5%	-407.6%	-43.2%	-34.8%	-52.2%	Calculated

Shopee's FY2021-FY2025 improvement is the principal operating-leverage event: revenue more than tripled while the exact segment-profit basis moved from a US$2.767 billion loss to a US$0.581 billion profit. Monee became profitable in FY2023 but its revenue and operating income are primarily attributed to consumer and SME credit, so loan growth, funding, provisioning, and loss seasoning remain part of the profit quality. Garena is the high-margin legacy profit pool, with FY2025 recovery following a FY2021-FY2024 revenue contraction. Other Services is small in revenue but cannot be dropped because its loss and sales-of-goods allocation affect the statutory bridge.

3a. Historical statutory-profit bridge and forecast-driver ledger

Exact common segment profit basis: `Operating segment income (loss)`, issuer disclosed. Reporting currency is USD; scale below is **US$ thousands**. There is no operating bridge adjustment between the consolidated segment metric after unallocated expenses and statutory operating income. Source IDs and signs are copied from the sealed packet.

FY2025

Bridge line	Classification	Value	Source ID	Running subtotal
Shopee	segment profit	581,052	sec_fy2025_release	581,052
Monee	segment profit	972,682	sec_fy2025_release	1,553,734
Garena	segment profit	1,184,071	sec_fy2025_release	2,737,805
Other Services	segment profit	-90,537	sec_fy2025_release	2,647,268
Sum of reportable segment profit	subtotal	2,647,268	sec_fy2025_release	2,647,268
Unallocated expenses	corporate_unallocated	-661,962	sec_fy2025_release	1,985,306
Consolidated segment profit metric	subtotal	1,985,306	sec_fy2025_release	1,985,306
Statutory operating income	statutory subtotal	1,985,306	sec_fy2025_release	1,985,306
Non-operating income, net	other_non_operating	295,553	sec_fy2025_release	2,280,859
Pretax income	statutory subtotal	2,280,859	sec_fy2025_release	2,280,859
Income tax expense	tax	-651,081	sec_fy2025_release	1,629,778
Share of results of equity investees (post-tax)	tax	-18,884	sec_fy2025_release	1,610,894
Net income	statutory subtotal	1,610,894	sec_fy2025_release	1,610,894

TTM ended 2026-06-30

Bridge line	Classification	Value	Source ID	Running subtotal
Shopee	segment profit	530,387	official_ttm_reconciliation	530,387
Monee	segment profit	1,045,600	official_ttm_reconciliation	1,575,987
Garena	segment profit	1,456,367	official_ttm_reconciliation	3,032,354
Other Services	segment profit	-147,611	official_ttm_reconciliation	2,884,743
Sum of reportable segment profit	subtotal	2,884,743	official_ttm_reconciliation	2,884,743
Unallocated expenses	corporate_unallocated	-600,244	official_ttm_reconciliation	2,284,499
Consolidated segment profit metric	subtotal	2,284,499	official_ttm_reconciliation	2,284,499
Statutory operating income	statutory subtotal	2,284,499	official_ttm_reconciliation	2,284,499
Non-operating income, net	other_non_operating	250,371	official_ttm_reconciliation	2,534,870
Pretax income	statutory subtotal	2,534,870	official_ttm_reconciliation	2,534,870
Income tax expense	tax	-835,313	official_ttm_reconciliation	1,699,557
Share of results of equity investees (post-tax)	tax	-17,354	official_ttm_reconciliation	1,682,203

Bridge line	Classification	Value	Source ID	Running subtotal
Net income	statutory subtotal	1,682,203	official_ttm_reconciliation	1,682,203

Forecast-driver ledger

Historical bridge line	FY value	TTM value	Forecast treatment	Driver and source	Bear / base / bull rule
Unallocated expenses	-661,962	-600,244	Percentage of revenue with operating-leverage cross-check	FY2025 -2.89% and TTM -2.17% of revenue; S20F and current releases	Bear holds near TTM percentage; base modest leverage; bull requires evidenced corporate-cost leverage
Non-operating income, net	295,553	250,371	Independently forecast interest and debt schedule; do not combine with operating lines	Q2 release defines interest, FX, investment gain/loss, and debt extinguishment components	Bear lowers yield and includes FX/investment losses; base normalizes current balance; bull cannot capitalize one-off gains
Income tax expense	-651,081	-835,313	Effective-tax-rate schedule	28.55% of pretax in FY2025; 32.95% in TTM	Bear at or above TTM; base between FY and TTM; bull reduction requires jurisdictional evidence
Share of results of equity investees (post-tax)	-18,884	-17,354	Separate post-tax line; fixed amount or investee schedule	Sealed statutory bridge	Bear retains losses; base trends cautiously; bull zero only with documented cessation or profitability

STATUTORY_BRIDGE_STATUS: VERIFIED — CLEARED FOR FORECASTING

4. Product and sub-segment historicals

The table below uses only official dollar disclosures. It does not allocate advertising, transaction fees, logistics, credit, payments, banking, or individual games beyond what the issuer states.

Revenue business or product	FY2021	FY2022	FY2023	FY2024	FY2025	Dollar disclosure status and source
E-commerce or Shopee service revenue	Combined	Combined	7,885.2	10,862.3	14,545.9	Separately disclosed from FY2023; annual 20-F revenue table
Digital financial services or Monee service revenue	Combined	Combined	1,759.4	2,367.7	3,791.6	Separately disclosed from FY2023; annual 20-F revenue table
Digital entertainment or Garena service revenue	4,320.0	3,877.2	2,172.0	1,910.6	2,408.8	Separately disclosed
Other Services revenue	Combined	Combined	125.8	120.7	166.8	Separately disclosed from FY2023 at service-revenue level
Sales of goods	1,070.6	1,109.4	1,121.2	1,558.6	2,025.4	Separately disclosed revenue nature; not a standalone profit segment
E-commerce and other services combined	4,564.6	7,463.2	N/A	N/A	N/A	Old taxonomy only; not comparable to post-FY2022 granular service lines

Segment	Product	What it is	Dollar disclosure?	Current-dollar evidence
Shopee	Core marketplace revenue	Transaction-based fees and advertising	Yes, rounded current quarter	Q2 2026 US$4.3bn, +65.6% YoY; SQ2
Shopee	Value-added services revenue	Mainly logistics services	Yes, rounded current quarter	Q2 2026 US$676.4m, -9.0% YoY; SQ2
Shopee and Other Services	Sales of goods	Direct sales revenue nature	Yes	Q2 2026 US$657.726m; allocation between profit segments comes from segment table
Monee	Consumer and SME credit	Primary source of segment revenue and operating income	Segment dollars only	Q2 2026 Monee revenue US$1,402.830m; no credit-only revenue split
Garena	Game portfolio	Free Fire, Arena of Valor, published titles	Segment dollars only	Q2 2026 Garena revenue US$746.603m; no title-level revenue split

Segment	Product disclosed only by rate or KPI	Last four-quarter evidence	Source
Shopee	Advertising revenue as a distinct product	Q3 2025 ad revenue increased over 70% YoY; no absolute dollar series	SQ3 call transcript; official release discloses core marketplace total
Monee	Off-Shopee SPayLater, personal loans, banking and insurance	Usage and portfolio commentary; no separate revenue dollars	Four call transcripts
Garena	Free Fire and Arena of Valor	Engagement, bookings and portfolio commentary; no title revenue dollars	Four call transcripts and releases

No product dollars are back-solved in this package, so no estimated tie-out is required.

5. Most recent quarterly trend

Sea's FY ends December 31. Most recently completed fiscal quarter at the cutoff was Q2 FY2026, covering 2026-04-01 through 2026-06-30, reported 2026-08-11 via [Sea's official Q2 release](https://cdn.sea.com/investor/2Q2026/wFBC39MbqnfLb3MGY6LP/2026.08.11%20Sea%20Second%20Quarter%202026%20Results.pdf).

Segment revenue and exact profit margin

Segment and metric	Q3 2025	Q4 2025	Q1 2026	Q2 2026	Source
Shopee revenue, US$bn	4.295	4.975	5.114	5.588	SQ3, SQ4, SQ1, SQ2
Shopee revenue YoY	34.9%	35.8%	45.1%	48.2%	Official releases
Shopee Operating segment income margin	2.56%	2.43%	2.72%	2.87%	Official segment bridge; calculated
Monee revenue, US$bn	0.990	1.132	1.242	1.403	SQ3, SQ4, SQ1, SQ2
Monee revenue YoY	60.8%	54.3%	57.8%	58.9%	Official releases
Monee Operating segment income margin	25.07%	22.33%	21.39%	19.89%	Official segment bridge; calculated
Garena revenue, US$bn	0.653	0.701	0.697	0.747	SQ3, SQ4, SQ1, SQ2
Garena revenue YoY	31.2%	35.1%	40.6%	33.5%	Official releases
Garena Operating segment income margin	47.44%	54.03%	52.20%	54.13%	Official segment bridge; calculated
Other Services revenue, US$bn	0.048	0.044	0.045	0.051	Official segment bridge
Other Services Operating segment income margin	-55.90%	-82.90%	-70.97%	-101.39%	Official segment bridge; calculated
Consolidated revenue, US$bn	5.986	6.852	7.097	7.788	Official releases
Statutory operating margin	7.95%	8.25%	8.35%	8.35%	Official statements; calculated

Operating KPI trend

KPI	Q3 2025	Q4 2025	Q1 2026	Q2 2026	Source
Shopee GMV, US$bn	32.2	36.7	37.3	38.3	Official releases
Shopee GMV YoY	28.4%	28.6%	30.2%	28.4%	Official releases
Shopee gross orders, bn	3.6	4.0	4.0	4.2	Official releases
Gross-order growth YoY	28.4%	30.5%	29.3%	27.5%	Official releases
Monee loans principal, US$bn	7.9	9.2	9.9	11.1	Official releases
Monee loan growth YoY	69.8%	80.4%	71.3%	62.5%	Official releases
Monee 90-day NPL ratio	1.1%	1.1%	1.1%	1.0%	Official releases
Garena bookings, US$bn	0.841	0.672	0.931	0.764	Official releases
Garena bookings growth YoY	51.1%	23.8%	20.1%	15.5%	Official releases
Garena quarterly active users, m	670.8	633.3	666.5	666.3	Official releases
Garena quarterly paying users, m	65.9	58.0	72.6	68.1	Official releases
Garena paying-user ratio	9.8%	9.2%	10.9%	10.2%	Official releases

The largest segment's most recent headline growth passed the required self-check: SQ2 and IR-Q2 both state Shopee GAAP revenue of US$5.6 billion, up 48.2% YoY, GMV of US$38.3 billion, up 28.4%, and gross orders of 4.2 billion, up 27.5%. The official service-revenue table gives Shopee marketplace revenue 4,931.861 and the segment table gives Shopee total revenue 5,587.577; these are not interchangeable.

6. Management commentary on forward growth

The exact FMP transcript date response matched every expected fiscal call: Q3 FY2025 on 2025-11-11, Q4 FY2025 on 2026-03-03, Q1 FY2026 on 2026-05-12, and Q2 FY2026 on 2026-08-11. Q2 was also verified against Sea's official transcript PDF. No investor day or capital-markets-day event was identified in the Sea IR inventory current at the cutoff.

Shopee

Fiscal call and date	Speaker	Short verbatim evidence	Topic	Modeling interpretation
Q3 FY2025, 2025-11-11	Forrest Li, Chairman and CEO	“more than 25%”	FY2025 GMV growth outlook	Raised full-year GMV outlook; historical target, now superseded by FY2025 actual
Q4 FY2025, 2026-03-03	Forrest Li	“grow Shopee's annual GMV by around 25%”	2026 guidance	Starting 2026 growth anchor with adjusted-EBITDA discipline
Q1 FY2026, 2026-05-12	Forrest Li	“on track to deliver our 2026 guidance”	Guidance reaffirmation	Q1 did not change the around-25% GMV objective
Q2 FY2026, 2026-08-11	Forrest Li	“achieve the milestone of US$1 billion in adjusted EBITDA”	Profitability	Q2 added a stronger full-year EBITDA milestone while GMV guidance remained around 25%

The Q2 Q&A transcript adds that management still expected the around-25% full-year GMV growth objective despite foreign-exchange headwinds and a harder second-half comparison. Management described fulfillment as capital-light because centers are generally leased rather than owned, while reporting quarter-on-quarter improvement in fulfillment unit economics. It also described future take-rate opportunity from advertising and seller tools, but a complete advertising-dollar series is not disclosed. Downstream Shopee forecasts should therefore test GMV growth, marketplace monetization, logistics net-off, and investment intensity separately.

Monee

Fiscal call and date	Speaker	Short verbatim evidence	Topic	Modeling interpretation
Q3 FY2025, 2025-11-11	Forrest Li	“strong off-Shopee growth for many years to come”	Use-case expansion	Off-platform credit is a stated long-duration growth vector
Q4 FY2025, 2026-03-03	Forrest Li	“significant long-term profit contributor”	Earnings role	Management expects Monee to become a larger profit pool
Q1 FY2026, 2026-05-12	Forrest Li	“significant long-term profit contributor for Sea”	Guidance continuity	Confidence persisted with 1.1% 90-day NPL
Q2 FY2026, 2026-08-11	Forrest Li	“great confidence in Monee's long-term growth and earnings potential”	Penetration runway	Management points to low ecosystem credit penetration

The Q2 Q&A transcript states that mix is shifting toward off-Shopee SPayLater, Brazil, newer countries, and more-prime users. Management explicitly noted that some of those cohorts have lower ROA or higher provisions but can expand the outstanding balance while remaining profitable. Its guardrail is stable NPL by product, country, and segment, not a fixed consolidated ROA. The model must therefore keep provision growth, funding cost, on-book versus off-book mix, and NPL seasoning visible; revenue growth alone is insufficient.

Garena

Fiscal call and date	Speaker	Short verbatim evidence	Topic	Modeling interpretation
Q3 FY2025, 2025-11-11	Forrest Li	“more than 30% year-on-year growth in bookings”	FY2025 bookings outlook	Historical raised target, subsequently delivered 37.3%
Q4 FY2025, 2026-03-03	Forrest Li	“double-digit growth for Garena for 2026”	2026 outlook	Broad direction, not a precise bookings or revenue guide

Fiscal call and date	Speaker	Short verbatim evidence	Topic	Modeling interpretation
Q1 FY2026, 2026-05-12	Forrest Li	“building the long-term value of our game portfolio”	Portfolio durability	Free Fire and Arena of Valor support multi-title aspiration
Q2 FY2026, 2026-08-11	Forrest Li	“work towards diversifying our portfolio”	New-game pipeline	Palworld Online and Monster Hunter Outlanders are pipeline evidence, not booked revenue

Bookings growth decelerated from 51.1% in Q3 2025 to 15.5% in Q2 2026, while paying-user penetration remained above prior-year levels. Free Fire still drew over 100 million average daily active users in Q2. The Q2 release also announced a metric-policy change: beginning Q3 2026, Garena adjusted EBITDA will exclude the net effect of deferred-revenue changes and related cost, with that effect disclosed separately. Historical and forward EBITDA comparisons must normalize this taxonomy change rather than interpret it as an economic margin step.

7. Capital allocation history

Year	Capex, US$bn	Capex / revenue	R&D, US$bn	R&D / revenue	Buybacks, US$bn	Dividends, US$bn	M&A, US$bn	Source
FY2021	0.807	8.1%	0.832	8.4%	0.000	0.000	0.035	FMP-A
FY2022	0.976	7.8%	1.377	11.1%	0.000	0.000	0.061	FMP-A
FY2023	0.258	2.0%	1.164	8.9%	0.000	0.000	0.044	FMP-A
FY2024	0.322	1.9%	1.206	7.2%	0.000	0.000	0.004	FMP-A
FY2025	0.514	2.2%	1.157	5.0%	0.014	0.000	0.015	FMP-A; official OCF/capex control

FY2025 official operating cash flow was US$5.024523 billion and cash PPE capex was US$0.513809 billion, producing US$4.510714 billion of FCF. Live FMP reports OCF US$5.027849 billion and FCF US$4.514040 billion, a US$3.326 million classification difference; the QFR-cleared official values control. FMP also shows large recurring investment purchases and maturities, so securities activity should not be confused with capex or acquisition spending.

Sea authorized a US$1.0 billion ADS repurchase program on 2025-11-17. It repurchased 0.116 million shares for US$14.5 million in Q4 2025, 1.8 million for US$168.4 million in Q1 2026, and 4.7 million for US$416.8 million in Q2 2026. Cumulative disclosed execution through Q2 was about 6.6 million shares and US$599.7 million. This is material relative to the packet's 634.487 million H1 diluted-share basis but does not eliminate TTM share-based compensation of US$560.556 million.

8. Balance-sheet snapshot

Item	FY2025	Q2 2026	Source
Cash and equivalents, US$bn	4.159	3.529	Official balance sheets
Restricted cash, current and non-current, US$bn	2.261	2.462	Official balance sheets
Short-term investments, US$bn	6.413	5.570	Official balance sheets
Total debt including leases, US$bn	3.330	4.126	Official component bridge; FMP-Q ties
Net cash before restricted cash, US$bn	7.242	4.972	Cash plus short-term investments less debt
Net debt / TTM adjusted EBITDA	-2.11x	-1.38x	Net-cash diagnostic using FY2025 3.437 and TTM 3.613 EBITDA
Goodwill and intangibles, US$bn	0.117	0.106	FMP statement tied to official totals
Sea shareholders' equity, US$bn	12.527	12.911	Official balance sheets
Tangible book value, US$bn	12.410	12.805	Shareholders' equity less goodwill/intangibles

Restricted cash is not excess liquidity. Monee's credit business, payment operations, customer deposits, and on-book loans also make a simple net-cash ratio incomplete. Q2 gross debt includes current borrowings 0.316, non-current borrowings 0.908, convertible notes 0.996, current leases 0.446, and non-current leases 1.460, totaling 4.126.

9. Recent corporate actions

- **2025-11-17 — capital return:** Sea authorized a US$1.0 billion ADS repurchase program. Official quarterly releases document US$599.7 million executed through Q2 2026.
- **2026-02-19 — AI partnership:** Sea announced an expanded Google partnership covering AI-powered innovations across its core businesses. This is strategic evidence, not a separately quantified revenue stream.
- **2026-06-22 — AI partnership:** Sea and OpenAI announced a strategic partnership focused on AI-powered e-commerce and access across Southeast Asia and Brazil. No financial consideration or incremental revenue guidance was disclosed in the fetched source.
- **2026-08-11 — reporting taxonomy:** Sea announced that beginning Q3 2026, Garena adjusted EBITDA will exclude the net deferred-revenue change and related cost; supplemental disclosure will continue. This creates a forward comparability requirement.
- **Through Q2 2026 — capital structure:** repurchases of ordinary shares and convertible notes reduce cash and potential dilution. The H1 official diluted weighted-average share basis remains 634.487 million; the sealed TTM denominator is 637.356 million.
- No CEO or CFO transition, dividend initiation, material acquisition, divestiture, large settlement, or guidance restatement was identified in the official last-12-month source inventory through the cutoff.

10. Open data gaps and source controls

- **True non-disclosure — product P&L.** FY2025 20-F, SQ3-SQ2 releases, and four transcripts were searched for advertising revenue dollars, transaction-fee revenue, logistics revenue, Monee credit/payment/banking revenue, and Garena game-title revenue. Core marketplace and value-added services are disclosed in current rounded dollars, but advertising and transaction fees are not split; Monee and game-title revenue are not split. Downstream product models must label any such dollars as analyst estimates.
- **True non-disclosure — Monee credit cohorts.** The same official sources were searched for vintage loss curves, APR, duration, country exposure, roll rates, and cohort profitability. Sea provides total on-book/off-book principal, 90-day NPL, provisions, and qualitative mix commentary, not a complete cohort tape.
- **True non-disclosure — geographic profit.** The current official sources identify operating markets but do not publish an additive geography-by-segment Operating segment income (loss) table.
- **True non-disclosure — investor day.** The Sea IR quarterly-results, newsroom, and annual-report inventory was checked; no current investor-day or capital-markets-day package was identified.
- **Estimated — TTM capex and FCF only.** Official quarterly releases summarize investing cash flow but do not disclose standalone quarterly PPE capex. QF's TTM capex US$792.809 million and TTM FCF US$4.422932 billion are vendor-assisted diagnostics, not issuer totals.
- **Provider classification gap — FY2025 operating income.** FMP reports US$1.863978 billion versus official US$1.985306 billion. Official includes the issuer's full operating presentation and controls.
- **Provider classification gaps — pretax income.** FMP folds Sea's separately presented post-tax share of equity investees into its pretax field. Official pretax controls. Disclosed gaps are FY2025 18.884, Q3 2025 1.032, Q4 2025 6.622, Q1 2026 2.554, and Q2 2026 7.146, all US$ millions.
- **Provider taxonomy failure — product/segment endpoints.** The live annual and quarterly FMP product endpoints are ticker-collided or stale. This is not a current official-data gap because SQ3-SQ2 and S20F supply a zero-residual replacement.
- **Provider share-basis exclusion.** FMP's standalone-Q2 diluted-share observation of 654.451 million is unsupported by Sea's Q2 filing and excluded. Sea's H1 diluted weighted average is 634.487 million; QFR's official-source TTM bridge is 637.356 million.
- **Taxonomy boundary — sales of goods and Other Services.** Sales of goods is not a standalone profit segment and cannot all be assigned to Shopee. Q2's US$2.010 million difference between the revenue-nature and segment views demonstrates the issue.

Self-verification

- **Largest-segment current growth:** live SQ2 and IR-Q2 both contain Shopee revenue US$5.6 billion, +48.2% YoY; GMV US$38.3 billion, +28.4%; and gross orders 4.2 billion, +27.5%.
- **Management quote date:** the live FMP exact Q2 FY2026 transcript returns 2026-08-11, and the official IR-Q2-Call transcript contains the Shopee US$1 billion adjusted-EBITDA milestone. The date is exactly the expected call date.
- **FY2025 revenue:** the live FMP annual income-statement endpoint returns US$22.938469 billion, tying the official FY2025 20-F and SQ4 within 0.0%.
- **Pretax classification gaps:** DR's independent live FMP pull and official releases re-tied the three specifically repaired gaps: FY2025 US$18.884 million, Q4 2025 US$6.622 million, and Q1 2026 US$2.554 million. The already disclosed Q3 2025 US$1.032 million and Q2 2026 US$7.146 million gaps also tie. Each delta equals Sea's separately presented post-tax share of results of equity investees, so official pretax remains controlling.
- **Four-quarter completeness:** all 16 segment-revenue and all 16 Operating segment income (loss) observations for Q3 2025 through Q2 2026 come from named official release tables and sum to the sealed TTM values.
- **Statutory identity:** FY2025 and TTM each have zero segment-sum, corporate-bridge, operating-income, pretax, and net-income residuals. The packet hash was rechecked before writing and remains unchanged.

Raw archive index

Fresh D-run FMP files are under `C:\Users\Admin\OneDrive\GPT\ER 2.0\Sea Limited\raw\pulse-cio-20260825T060138+0800\D`. DR's independent live FMP pulls and official-source re-fetches are under `C:\Users\Admin\OneDrive\GPT\ER 2.0\Sea Limited\raw\pulse-cio-20260825T060138+0800\DR`; the 14 new FMP JSON datasets were copied without overwrite to the run-specific warehouse. Current official QFR evidence is under the parent run directory. The pre-refresh May package is preserved at `C:\Users\Admin\OneDrive\GPT\ER 2.0\Sea Limited\raw\data_package_20260529_pre_q2_2026_refresh.md`. Valid source-bound FY2021-FY2025 history was retained, but stale May time anchors, Q1-only trends, broad sales-of-goods allocation, and pre-QFR share arithmetic were replaced.

Downstream control: use the exact four modeled segment labels and `Operating segment income (loss)`; preserve sales of goods as a revenue nature; preserve Other Services as a bridge segment; use only the official 637.356 million TTM diluted-share basis; and normalize the Q3 2026 Garena adjusted-EBITDA definition change before trend comparisons.