

Microsoft: Financial Forecast and AI Investment Model

Findings and management recommendations. Prepared by Kleivin Gjuzi. Portfolio project based on public information. Research cut-off: October 11, 2026. Periods: fiscal years 2024-2026 (fiscal year ends June 30) and a forecast for fiscal year 2027. USD millions unless stated.

How to read the labels. **Reported** = copied from a Microsoft publication. **Derived** = calculated from reported figures. **Management guidance** = forward-looking statements from Microsoft's July 29, 2026 earnings call; never used as actuals. **Analyst assumption** = an input chosen by the author. **Forecast (E) / scenario** = result of those assumptions. **GAAP** = US generally accepted accounting principles; free cash flow is **non-GAAP**.

1. Executive summary

- **Growth is strong and concentrated.** FY2026 revenue was \$331.8 billion, up 17.8%. Intelligent Cloud grew 29.7% and supplied 11.2 of the 17.8 points of growth (reported, derived).
- **Operating margin rose while gross margin fell.** Gross margin slipped from 69.8% to 67.9% in two years as D&A climbed from 8.6% to 11.6% of revenue, but operating margin improved from 44.6% to 46.8% because operating expenses grew much more slowly than revenue.
- **Investment is absorbing the cash.** Operating cash flow grew 34% to \$182.9 billion, but cash capex grew 80% to \$115.9 billion, so free cash flow (non-GAAP) fell to \$67.0 billion.
- **Base forecast for FY2027: free cash flow of about \$23 billion.** Revenue \$386.5 billion (+16.5%), operating income \$177.0 billion (+14.0%), cash capex \$184 billion. After dividends and repurchases the base case is -\$30.0 billion (analyst forecast, not guidance).
- **Revenue growth and capex are the two largest forecast risks.** Free cash flow reaches zero if revenue growth falls to 6.0% or cash capex rises to \$207 billion. In the downside scenario free cash flow is -\$9.1 billion.

Management questions

(1) How much cash remains after investment? (2) What growth or margin performance would support the investment scenario? (3) Which assumptions create the largest forecast risk?

Key figures

USD millions	FY2024	FY2025	FY2026	FY2027E (base)	FY27E vs FY26
Revenue	245,122	281,724	331,839	386,467	+16.5%
Gross margin	171,008	193,893	225,465	252,177	+11.8%
Gross margin %	69.8%	68.8%	67.9%	65.3%	-2.7 points
Operating expenses	61,575	65,365	70,228	75,144	+7.0%
Operating income	109,433	128,528	155,237	177,033	+14.0%
Operating margin	44.6%	45.6%	46.8%	45.8%	-1.0 points
Depreciation, amortization, and other (D&A)	20,958	29,433	38,534	55,282	+43.5%
Net cash from operations (operating cash flow)	118,548	136,162	182,935	207,023	+13.2%
Cash capital expenditures	44,477	64,551	115,948	184,000	+58.7%
Free cash flow (non-GAAP)	74,071	71,611	66,987	23,023	-65.6%
Cash capex as % of revenue	18.1%	22.9%	34.9%	47.6%	+12.7 points
Cash after investment and shareholder returns	33,760	26,826	15,170	-29,977	n.m.

FY2024-FY2026: derived from reported quarterly figures and tied to the Form 10-K. FY2027E: analyst forecast, base scenario. Free cash flow = net cash from operations less additions to property and equipment (non-GAAP). 'Cash after investment and shareholder returns' also deducts finance lease principal, dividends and share repurchases (analyst measure).

2. Data provenance and limitations

Topic	What was done
Sources	Only Microsoft's own publications: twelve quarterly earnings-release workbooks (Q1 FY24 to Q4 FY26), the FY2026 Form 10-K, the Q4 FY26 press release and the earnings-call transcript. See section 8 and Sources.csv.
Fiscal calendar	Microsoft's fiscal year ends June 30. FY2026 = July 1, 2025 to June 30, 2026. Q1 = July-September. The forecast year FY2027 began on July 1, 2026; no FY2027 quarter had been reported at the cut-off.
Accounting basis	US GAAP. Fiscal-year totals tie to the audited Form 10-K (auditor: Deloitte & Touche LLP). Quarterly figures come from unaudited earnings-release files.
Quarterly vs year to date	Microsoft publishes cash flows for the three months ended and for the fiscal year to date. The model stores both and checks that the running three-month total equals the year-to-date figure in all twelve quarters.
Guidance kept separate	Management guidance (for example 'double-digit revenue and operating income growth' for FY2027) sits in its own table and is only used for comparison. The model is not calibrated to it.
GAAP vs non-GAAP	Free cash flow is non-GAAP. Microsoft's non-GAAP net income (which excludes the impact of its OpenAI investments) is not used. Two measures are the author's own: 'cost of revenue net of D&A' and 'cash after shareholder returns'.
Capex vs leases	Cash capex = additions to property and equipment (\$115.9 billion in FY2026). Finance lease additions (\$24.6 billion, non-cash) are tracked separately: they add to assets and depreciation but are never deducted from free cash flow, so nothing is counted twice. Operating leases are not capex.
Recast	In FY2026 Microsoft recast the cash flow line 'Depreciation, amortization, and other' for earlier periods. The model uses the recast annual figures from the FY2026 10-K and no quarterly D&A.

Limitations

- **No AI-specific disclosure.** Microsoft does not report AI revenue, AI costs or AI invested capital. The model therefore cannot and does not calculate Microsoft's actual return on AI investment; section 4 uses an illustrative scenario.
- **Company capex metric.** Microsoft's 'capital expenditures including finance leases' (\$145.3 billion for FY2026) is \$4.7 billion higher than cash capex plus the finance lease additions in the 10-K. The gap cannot be explained with public data and is shown as an information row, not hidden.
- **Cost split.** Microsoft does not disclose how D&A is divided between cost of revenue and operating expenses. The forecast treats all D&A as cost of revenue, which is a simplification.
- **Outside view.** The forecast is a one-year driver model built from public data. It ignores quarterly phasing, currency effects, tax depreciation, debt and investment gains. It is illustrative and is not investment advice.

3. KPI definitions and methodology

KPI	Definition (numerator / denominator)	Basis	GAAP status	Missing or misleading values
Revenue growth	Revenue / prior-year revenue - 1	Fiscal year or same quarter of the prior year	GAAP inputs	FY2024 growth is n/a (FY2023 is outside the dataset)
Gross margin %	(Revenue - cost of revenue) / revenue	Fiscal year	GAAP inputs	None missing
Operating margin	Operating income / revenue	Fiscal year	GAAP inputs	None missing
Cost of revenue net of D&A	Cost of revenue - D&A line of the cash flow statement, as % of revenue	Fiscal year	Analyst measure	Understates cash cost because some D&A sits in operating expenses
Cash capex intensity	Additions to property and equipment / revenue	Fiscal year	GAAP inputs	None missing
Depreciation rate	Depreciation expense on property and equipment / average gross property and equipment	Fiscal year, average of opening and closing	GAAP inputs	Depreciation is reported in \$ billions to one decimal
Free cash flow	Net cash from operations - additions to property and equipment	Fiscal year or three months	Non-GAAP	Never mixes three-month and year-to-date figures
Cash after returns	Free cash flow - finance lease principal - dividends - repurchases	Fiscal year	Analyst measure	Negative means funded from cash or debt

Forecast method

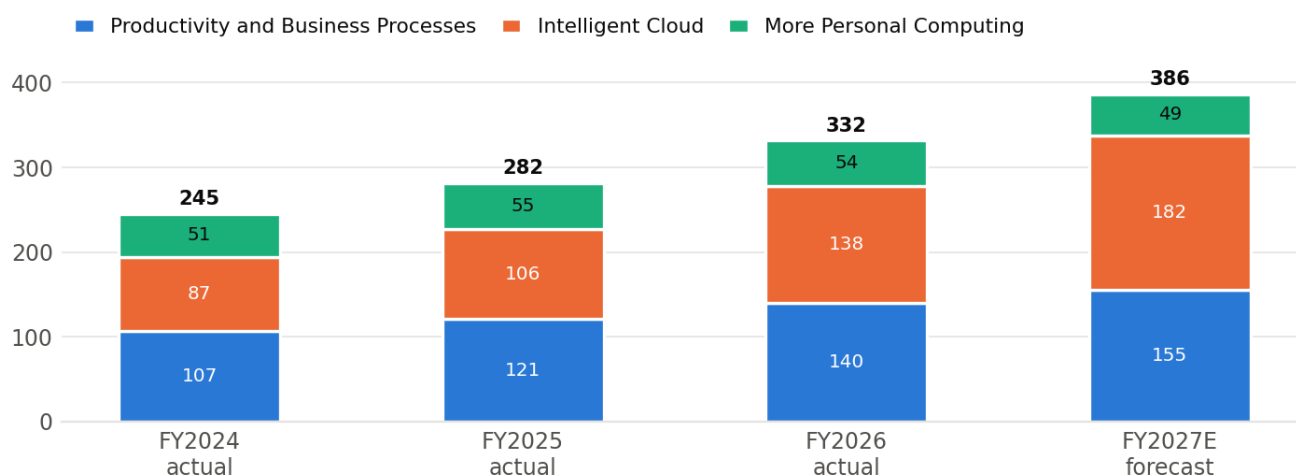
Revenue: each segment's FY2026 revenue x (1 + growth). Cost of revenue = revenue x cost ratio net of D&A + D&A. Operating expenses = FY2026 x (1 + growth). D&A = average gross property and equipment x depreciation rate + amortization. Gross property and equipment rolls forward with cash capex, finance lease additions and retirements. Operating cash flow = net income + D&A + stock-based compensation + other items (a % of revenue). Free cash flow = operating cash flow - cash capex. Base inputs: segment growth 11% / 32% / -9%, operating expense growth 7%, cash capex \$184 billion, depreciation rate 9.8%, tax rate 20%.

4. Five findings

Finding 1 - Intelligent Cloud drives the growth; More Personal Computing is shrinking

FY2026 revenue grew 17.8% to \$331.8 billion. Intelligent Cloud grew 29.7% to \$137.8 billion and contributed 11.2 points; Productivity and Business Processes grew 15.9% (6.8 points); More Personal Computing declined 1.1%. By product, server products and cloud services grew 31.5% to \$129.4 billion. Intelligent Cloud is now 41.5% of revenue but earns a lower operating margin (41.3%) than Productivity and Business Processes (59.9%), and its gross margin fell from 62.2% to 58.0%. In the base forecast its share rises to 47.1%.

Revenue by segment, USD billions (FY2027E = base scenario)



FY2024-FY2026 derived from reported segment data; FY2027E is the analyst base scenario.

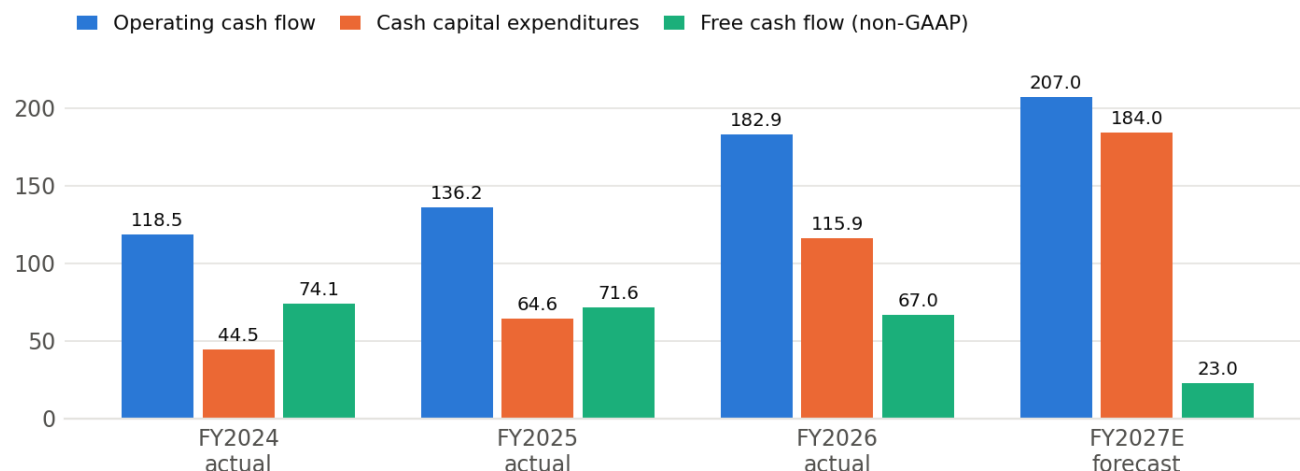
Finding 2 - Operating leverage has more than offset a falling gross margin, so far

Gross margin fell from 69.8% (FY2024) to 68.8% and 67.9%. The main reason is depreciation: D&A rose from 8.6% to 11.6% of revenue, while cost of revenue net of D&A actually fell from 21.7% to 20.4%. Operating expenses grew only 7.4% against revenue growth of 17.8%, so operating margin rose to 46.8%. In the base forecast D&A reaches 14.3% of revenue, gross margin falls to 65.3% and operating margin slips 1.0 points to 45.8%; management has said operating margins should be down less than a point.

Finding 3 - How much cash remains after investment? Less each year

Operating cash flow rose from \$118.5 billion to \$182.9 billion in two years. Cash capex rose from \$44.5 billion to \$115.9 billion, or from 18.1% to 34.9% of revenue. Free cash flow therefore fell from \$74.1 billion to \$67.0 billion. Including non-cash finance lease additions, investment was \$140.6 billion (42.4% of revenue). After finance lease principal (\$3.1 billion), dividends and repurchases (\$48.7 billion), \$15.2 billion remained, and cash and short-term investments fell from \$94.6 billion to \$76.8 billion. Quarterly free cash flow in FY2026 ranged from \$5.9 billion to \$25.7 billion, so single quarters should not be annualised.

Cash generated and cash invested, USD billions (FY2027E = base scenario)

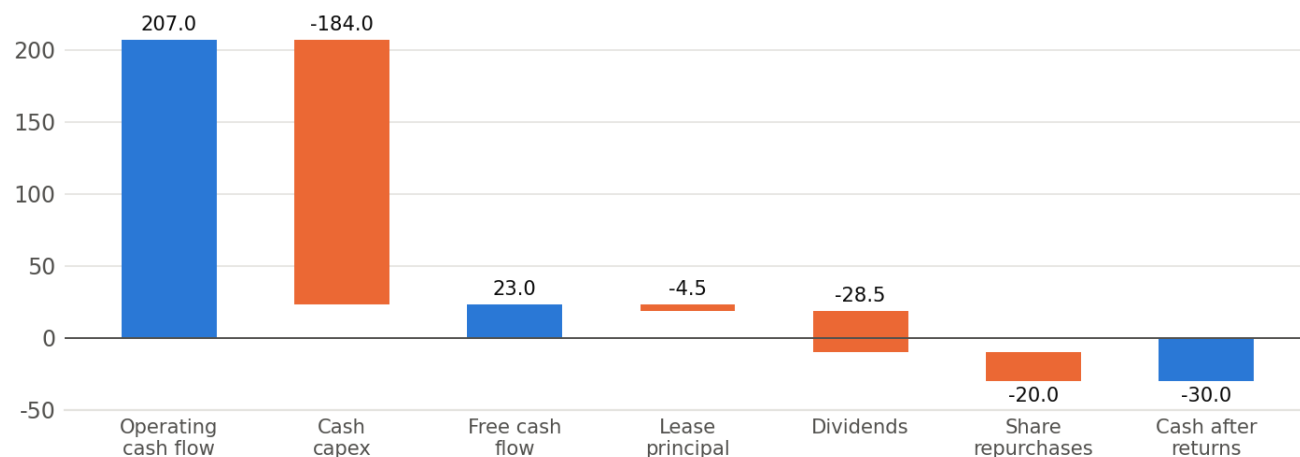


Free cash flow is a non-GAAP measure. FY2027E is the analyst base scenario, not guidance.

Finding 4 - FY2027 base case: growth continues, free cash flow shrinks to about a third

The base scenario gives revenue of \$386.5 billion (+16.5%), operating income of \$177.0 billion (+14.0%) and operating cash flow of \$207.0 billion. With cash capex of \$184 billion (47.6% of revenue), free cash flow is \$23.0 billion, down from \$67.0 billion. Shareholder returns of \$48.5 billion and lease principal would then exceed free cash flow by \$30.0 billion, to be funded from the \$76.8 billion of cash and short-term investments or from borrowing. The result is in line with every quantitative piece of guidance: double-digit revenue and operating income growth, operating margin down less than a point, and positive free cash flow. Upside free cash flow is \$38.5 billion; downside is -\$9.1 billion.

FY2027E: from operating cash flow to cash after shareholder returns, USD billions

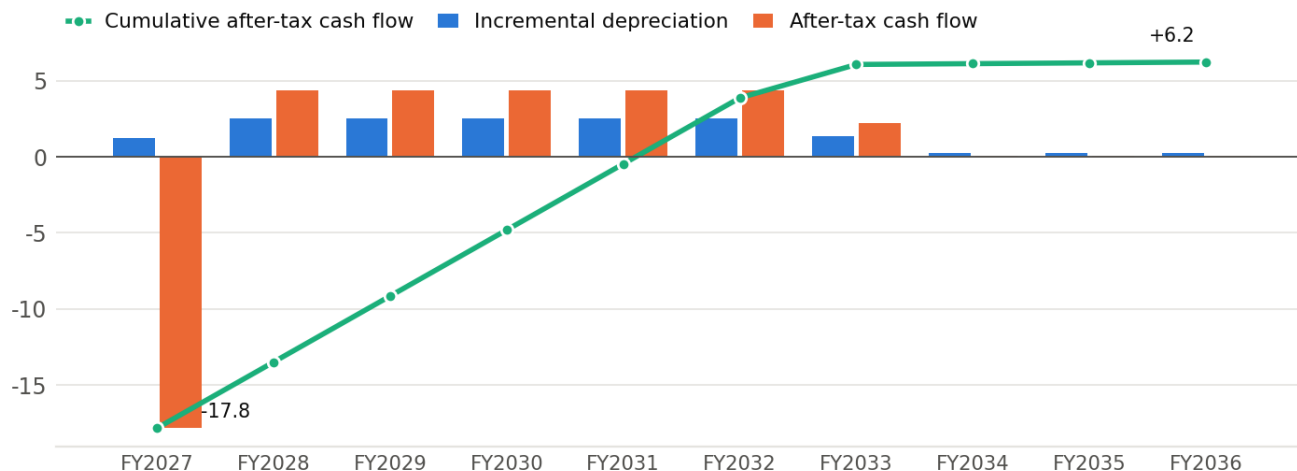


Analyst forecast, base scenario. Blue = totals, orange = deductions.

Finding 5 - What would support more investment? An illustrative scenario, and where the forecast risk sits

Illustrative scenario, not Microsoft's actual AI economics. An extra \$20 billion of capex in FY2027 (67% short-lived assets over 6 years, the rest over 25 years, half-year convention) lowers FY2027 free cash flow by \$17.8 billion immediately but adds only \$1.2 billion of depreciation in FY2027 and \$2.5 billion per year from FY2028 to FY2032. To leave operating income unchanged in a full year, the investment must earn about \$0.21 of revenue per year for each \$1 invested (at a 60% cash margin); to recover the cash within ten years it must earn about \$0.29. At the illustrative \$0.40, cumulative cash turns positive in FY2032 and reaches \$6.2 billion by FY2036, with \$4.1 billion of long-lived assets still on the balance sheet.

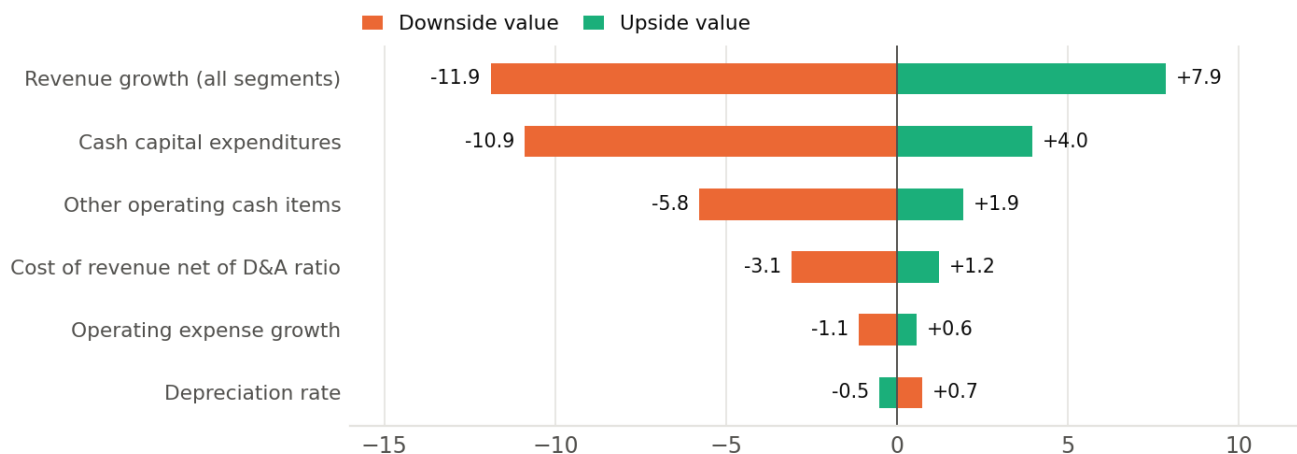
Illustrative scenario: \$20 billion of extra capex in FY2027, USD billions



Illustrative scenario with stated assumptions (Assumptions sheet, tblIncr). Microsoft does not disclose AI-specific revenue, costs or invested capital.

Forecast risk. Moving one driver group at a time from its base to its downside or upside value, revenue growth changes FY2027E free cash flow by -11.9 to +7.9 billion, cash capex by -10.9 to +4.0 billion, and working capital and other operating cash items by -5.8 to +1.9 billion. The depreciation rate matters for operating income (-3.7 to +2.6 billion) but hardly for cash.

Effect on FY2027E free cash flow of one driver group, USD billions



Each bar re-runs the full FY2027 model with one driver group changed. Analyst scenarios.

5. Scenarios and sensitivity analysis

FY2027E, USD millions	Base	Upside	Downside
Revenue	386,467	398,319	368,541
Revenue growth	16.5%	20.0%	11.1%
Operating income	177,033	191,559	153,441
Operating margin	45.8%	48.1%	41.6%
D&A	55,282	52,480	59,523
Operating cash flow	207,023	218,474	185,898
Cash capex	184,000	180,000	195,000
Cash capex as % of revenue	47.6%	45.2%	52.9%

FY2027E, USD millions	Base			Upside	Downside	
Free cash flow (non-GAAP)	23,023			38,474	-9,102	
Cash after investment and shareholder returns	-29,977			-14,526	-62,102	
FY2027E free cash flow (USD m): change in revenue growth (rows) / change in cash capex (columns)	-20,000	-10,000	0	+10,000	+20,000	+30,000
-6 points	29,618	19,716	9,814	-88	-9,990	-19,892
-4 points	34,021	24,119	14,217	4,315	-5,587	-15,489
-2 points	38,424	28,522	18,620	8,718	-1,184	-11,086
0 points	42,827	32,925	23,023	13,121	3,219	-6,683
+2 points	47,230	37,328	27,426	17,524	7,622	-2,280
+4 points	51,634	41,732	31,830	21,928	12,026	2,124
FY2027E operating margin: change in cost ratio (rows) / change in depreciation rate (columns)	-1.0 pts	-0.5 pts	0	+0.5 pts	+1.0 pts	+1.5 pts
-1.0 points	48.2%	47.5%	46.8%	46.1%	45.5%	44.8%
-0.5 points	47.7%	47.0%	46.3%	45.6%	45.0%	44.3%
0 points	47.2%	46.5%	45.8%	45.1%	44.5%	43.8%
+0.5 points	46.7%	46.0%	45.3%	44.6%	44.0%	43.3%
+1.0 points	46.2%	45.5%	44.8%	44.1%	43.5%	42.8%
+1.5 points	45.7%	45.0%	44.3%	43.6%	43.0%	42.3%

Both grids start from the base scenario and are exact for this model. Example: two points less revenue growth together with \$10 billion more capex leaves free cash flow of \$8.7 billion.

Break-evens (base scenario)

- Free cash flow falls to zero if revenue growth is 6.0% instead of 16.5%, or if cash capex is \$207 billion instead of \$184 billion.
- Keeping free cash flow at the FY2026 level of \$67.0 billion would need revenue growth of 36.4%; keeping the operating margin at 46.8% would need 19.9%.
- The cost of revenue ratio can rise by only 0.03 points before the operating margin is down a full point, the limit of management's guidance.

6. Three prioritised recommendations

Suggestions from an outside analyst for an FP&A team, based only on public data.

#	Recommendation	Evidence from the model	Trade-off	Risk
1	Track investment and cash on three lines every month: cash capex, capex including finance leases, and free cash flow after lease principal. Add operating lease commitments as leases shift from finance to operating.	Cash capex \$115.9 billion against \$140.6 billion including finance leases in FY2026; leases not yet commenced of \$329.1 billion; management expects more operating leases, which lowers reported capex without lowering commitments.	More metrics to explain; some are non-GAAP and need reconciliation.	A lower reported capex figure could be read as lower investment when the obligation has only moved.
2	Release incremental capex in stages against a stated hurdle, and keep the short-lived two-thirds of spending flexible.	Illustrative hurdle: about \$0.29 of annual revenue per \$1 of capex to recover cash in ten years, \$0.21 to protect operating income. Free cash flow is zero at capex of \$207 billion.	Staging can leave demand unserved; management says demand exceeds supply.	Idle capacity and impairment if demand is overestimated (a risk named in the 10-K).

#	Recommendation	Evidence from the model	Trade-off	Risk
3	Protect the operating margin through operating expense discipline and unit-cost efficiency, with D&A as a tracked line.	Operating expenses +7% against revenue +16.5% offsets a gross margin decline of 2.7 points; one more point on the cost ratio costs \$3.9 billion of operating income.	Tight operating expenses can starve R&D and sales capacity.	Margin falls more than the guided one point: the base case has only 0.03 points of room.

7. Validation summary

The workbook was generated from the data files, then opened, fully recalculated and saved in Microsoft Excel for Mac (version 16.78), so the results stored in the file were calculated by Excel. Workbook controls after recalculation: **ALL 55 CHECKS PASS (3 information rows)**. The separate validation script ran 29 tests; 29 passed.

Test	Result	Tested in
Quarterly versus year to date: running three-month totals against reported year-to-date figures (operating cash flow, capex, net income; 12 quarters)	No differences	Excel formulas and Python
Arithmetic of the reported statements, segments and product lines in 12 quarters (9 identities)	No differences	Excel formulas
Fiscal-year sums of quarters against the Form 10-K (5 lines x 3 years)	All equal	Excel formulas
Free cash flow and capex for Q4 FY26 against figures stated on the earnings call	Equal within rounding	Excel formulas
Hand-keyed 10-K and transcript figures re-found in the source text (77 items)	All found	Python on source text
Independent Python model against Excel-calculated values (1,035 cells, including 15 full model runs and brute-force grids)	All equal	Python against Excel results
Scenario switch to Downside and Upside; zero-margin and loss-case guards; what-if on the incremental scenario	7 of 7 passed	Microsoft Excel, on temporary copies
Formula cells without a stored result / cells with Excel error values / typed numbers on calculation sheets	0 / 0 / 0	Python read of the Excel-saved file

During testing one defect was found and fixed: three text labels beginning with an equals sign were read by Excel as broken formulas and stopped the file from opening. **Not tested:** Excel for Windows, other regional settings, LibreOffice, Google Sheets, printing, Goal Seek, and use by a second person. Dashboard charts were checked visually only through Excel's PDF export. Three information rows on the Checks sheet show the unreconciled gap between Microsoft's capex metric and the audited components. Details: validation_results.csv.

8. Source references

ID	Document (publisher: Microsoft Corporation)	Period	Used for
S01-S12	Microsoft Financial Data workbooks published with each quarterly earnings release, FY24 Q1 to FY26 Q4	Quarters ended September 30, 2023 to June 30, 2026	Quarterly income statement, cash flow and balance sheet figures; segment, product and capex history
S13	Investor Metrics FY26 Q4 (workbook)	Q4 FY25 - Q4 FY26 and fiscal years 2025-2026	Context for findings (Microsoft Cloud revenue, Azure growth); no model input
S14	Annual Report on Form 10-K for the fiscal year ended June 30, 2026	Fiscal years 2024-2026	Annual statement lines, D&A, depreciation expense, lease disclosures, property and equipment by class
S15	Press release: Microsoft Cloud and AI Strength Fuels Fourth Quarter Results	Quarter and fiscal year ended June 30, 2026	GAAP versus non-GAAP context (non-GAAP excludes the impact of investments in OpenAI)
S16	Earnings call transcript, fiscal year 2026 fourth quarter	Q4 FY26 results; outlook for FY2027 and Q1 FY2027	MANAGEMENT GUIDANCE (tblGuidance) and call disclosures (tblCall). Never used as actuals
S17	Outlook slides FY27 Q1	Q1 FY2027 outlook	Not used. Guidance was taken from the transcript (S16) instead

URLs, sheet and section references, units, accounting basis, audit status and extraction method for all 17 sources are in Sources.csv and on the Sources sheet. Not affiliated with or endorsed by Microsoft Corporation. Forecasts and scenarios are illustrative and are not investment advice.