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PART 26

MASTER SUMMARY AND COMP METRICS COMPENDIUM

The Systems CFO Reference — Every Model, Every Metric, Every Formula

Cross-model gross margin benchmarks for all 25 models, revenue recognition standards and most consequential judgment by model, critical tax issue by model, complete alphabetical metrics compendium (150+ metrics with formulas and benchmarks), master formulas reference by category, CFO decision framework for financial architecture diagnosis, and a closing letter to the Systems CFO.

SECTION 1
THE SERIES IN PERSPECTIVE

Twenty-Five Models, One Discipline: The Systems CFO Framework

This final installment of the Financial Architecture of Different Business Models series serves three purposes. First, it provides a synthesis — a perspective on what the 25 models covered in Parts 1 through 25 have in common, how they differ, and what those differences mean for capital allocation, valuation, and financial leadership. Second, it provides the cross-model comparison tables that allow a CFO, board member, or investor to compare revenue recognition approaches, gross margin benchmarks, key accounting standards, and tax issues side by side across models. Third — and most importantly — it provides the comprehensive Metrics and Formulas Compendium: every significant metric, formula, and benchmark from all 25 parts, organized for permanent reference.

The Systems CFO — the archetype this series is designed to serve — is not a generalist who knows a little about everything, nor a specialist who knows everything about one model. The Systems CFO is a financial leader who understands the financial architecture of multiple business models deeply enough to recognize when a new business opportunity requires a different financial toolkit, to structure reporting that correctly captures the economics of a complex or hybrid model, and to make capital allocation decisions that are calibrated to the specific risk and return profile of each business they oversee.

Every model in this series, despite its surface differences, rests on the same four financial pillars: how revenue is generated and recognized, what it costs to generate that revenue, how efficiently capital is deployed to grow the business, and how tax and regulatory obligations affect the cash that ultimately flows to owners. The CFO who can articulate all four pillars for any business model — quickly, precisely, and with appropriate nuance — is operating at the level this series has been designed to develop.

SECTION 2
CROSS-MODEL P&L ARCHITECTURE COMPARISON

Cross-Model Gross Margin Benchmarks

Gross margin — the percentage of revenue remaining after direct costs of delivering the product or service — is the single most important structural characteristic of any business model. It sets the ceiling on operating profitability and determines how much revenue must scale before fixed overhead can be absorbed. The following tables compare gross margin benchmarks and key P&L; characteristics across all 25 models.

2.1 Gross Margin Benchmarks by Model

Model	Part	Gross Margin Range	Primary COGS Driver
Two-Sided Marketplace	1	55%–75%	Payment processing, trust & safety, infrastructure
SaaS (Seat-Based)	2	70%–85%	Cloud hosting, customer success, support
Usage-Based / Consumption SaaS	3	50%–75%	Variable compute per unit consumed
Platform / API Business	4	55%–80%	Infrastructure, free tier cost, third-party APIs
Marketplace with Embedded Finance	5	40%–65% (blended)	Payment processing + credit losses
Advertising-Supported / Media	6	45%–80%	Content creation, SSP/DSP fees, CDN
App Store / Mobile Platform	7	55%–75%	Platform fees (15%–30%), infrastructure
Data / AI Model Business	8	20%–60%	GPU inference compute (utilization-dependent)
DTC / eCommerce	9	55%–75% (GAAP)	Product COGS, fulfillment, returns
Wholesale to Retail	10	50%–68%	Product COGS (higher % than DTC due to lower ASP)
Consumer Subscription / Box	11	38%–55%	Product + packaging + assembly + shipping
Manufacturing (Captive)	12	30%–55%	Materials, labor, overhead absorption
Franchise (Franchisor)	13	65%–80%	Minimal; royalty revenue has near-zero COGS
Retail (Multi-Location)	14	40%–60%	Merchandise COGS, shrinkage, markdowns
Professional Services	15	35%–50%	Billable staff compensation
Staffing / EOR	16	12%–25%	Pay rate + payroll taxes + workers' comp + benefits
Healthcare Services	17	30%–50%	Clinical staff, supplies, facility costs

Model	Part	Gross Margin Range	Primary COGS Driver
Education / EdTech	18	45%–75%	Instruction cost (varies by format)
Real Estate (Operating)	19	55%–75% NOI margin	Property expenses (not traditional COGS)
Infrastructure / Energy	20	60%–85%	O&M; (very low for contracted assets)
Financial Services / FinTech	21	NIM-based	Cost of funds + credit losses
SaaS + Hardware Hybrid	22	45%–70% (blended)	Hardware COGS drags blended margin
Creator Economy Platform	23	25%–55%	Creator payouts (as % of platform revenue)
Multi-Sided Ecosystem	24	Varies by segment	Weighted average of constituent segments
Web3 / Crypto-Native	25	Highly variable	Protocol costs, compute, token distributions

SECTION 3
REVENUE RECOGNITION STANDARDS BY MODEL

Revenue Recognition: Key Standards and Judgments by Model

The following table summarizes the primary revenue recognition standard and the most consequential judgment required for each of the 25 models. This is the reference a CFO needs when evaluating a new business line or preparing for an audit.

Model	Primary Standard	Most Consequential Judgment
Two-Sided Marketplace	ASC 606 — principal vs. agent	Net vs. gross revenue: is marketplace the principal?
SaaS	ASC 606 — over time	Deferred revenue rollforward; subscription period boundaries
Usage-Based SaaS	ASC 606 — variable consideration	Consumed vs. committed ARR; overage recognition timing
Platform / API	ASC 606 + ASC 808	Collaborative arrangement vs. customer relationship
Embedded Finance	ASC 606 + ASC 310	MCA factor premium timing; BNPL MDR vs. interest split

Model	Primary Standard	Most Consequential Judgment
Advertising / Media	ASC 606 — over time or point-in-time	Makegood obligation; principal vs. agent in programmatic
App Store	ASC 606 — point-in-time or ratable	Virtual currency breakage; principal vs. agent for IAP
Data / AI Model	ASC 606 + evolving guidance	Right-to-use vs. right-to-access for enterprise licenses
DTC / eCommerce	ASC 606 — point-in-time	Returns reserve rate; variable consideration at sale
Wholesale to Retail	ASC 606 — contra-revenue	Trade spend accrual timing; markdown reserve estimation
Subscription Box	ASC 606 — at shipment	Revenue recognized when box ships, not when billed
Manufacturing	ASC 606 — point-in-time or PoC	Percentage-of-completion for long-term contracts
Franchise	ASC 606 — over time	Initial fee deferral over pre-opening obligation period
Multi-Location Retail	ASC 606 — point-in-time	Shrinkage reserve; markdown reserve timing
Professional Services	ASC 606 — over time	WIP aging; fixed-fee completion percentage
Staffing / EOR	ASC 606 — gross vs. net	Principal vs. agent: staffing firm as legal employer
Healthcare Services	ASC 606 — variable consideration	Portfolio collection rate; implicit price concession
Education / EdTech	ASC 606 — over term	R2T4 refund reserve; dropout reserve by week of term
Real Estate (Development)	ASC 606 — PoC or point-in-time	Point of control transfer; PoC for build-to-suit
Infrastructure / Energy	ASC 606 + ASC 840/842	PPA as lease; revenue when energy delivered
Financial Services	ASC 310 + ASC 326	CECL allowance; gain-on-sale + MSR at origination
SaaS + Hardware	ASC 606 — multi-element	SSP allocation; HaaS as embedded ASC 842 lease
Creator Economy	ASC 606 — principal vs. agent	Advertising (principal) vs. subscriptions (agent)
Multi-Sided Ecosystem	ASC 280 + ASC 606	Segment profit measure; intercompany eliminations
Web3 / Crypto	ASU 2023-08 + ASC 606	Token issuance treatment; DeFi yield income character

SECTION 4
KEY TAX ISSUES BY MODEL

Tax Architecture: The Most Critical Issue for Each Model

The following table identifies the single most financially consequential tax issue for each of the 25 models. It is the tax issue that a CFO entering or evaluating that model should understand first.

Model	Most Critical Tax Issue	Financial Magnitude
Two-Sided Marketplace	Marketplace facilitator sales tax; 1099-K reporting	Multi-million dollar exposure if non-compliant at scale
SaaS	State sales tax on SaaS (22+ states tax it)	Material nexus exposure in taxing states; Wayfair thresholds
Usage-Based SaaS	DST exposure; Section 174 amortization of R&D; costs	Section 174: can create cash taxes even in loss years
Platform / API	Pillar Two; DEMPE transfer pricing; DSTs	Billions for large platforms; millions for mid-size
Embedded Finance	CECL deferred tax asset; state financial institution tax	Realizability of DTA on large CECL allowances
Advertising / Media	State digital advertising taxes (Maryland precedent)	Gross revenue tax: 5% on $100M = $5M non-deductible
App Store / Mobile	India Equalization Levy; income tax character of payouts	2% on gross sales to Indian users; withholding risk
Data / AI Model	Section 174 on training costs; R&D; credits	Section 174: $500M training run = $94M+ year-1 cash tax
DTC / eCommerce	Sales tax nexus on physical goods post-Wayfair	50-state compliance; inventory property tax
Wholesale to Retail	Resale certificate management; transfer pricing	Exposure on invalid certificates; intercompany pricing
Subscription Box	Sales tax on bundled goods; auto-renewal compliance	Class action + FTC ROSCA exposure from non-compliance

Model	Most Critical Tax Issue	Financial Magnitude
Manufacturing	Bonus depreciation + Section 179; R&D; process credits	$500K+ annual benefit for $5M equipment purchase
Franchise	Multi-state royalty sourcing; Section 197 amortization	Filing obligations in all franchisee states
Multi-Location Retail	POS sales tax in every jurisdiction; workers' comp reserve	Audit exposure in every state where stores operate
Professional Services	SSTB limitation on Section 199A QBI deduction	Partners above phase-out lose 20% deduction entirely
Staffing / EOR	Workers' comp experience mod; SUTA experience rating	$200K–$500K/yr swing from e-mod management
Healthcare Services	340B compliance; not-for-profit Form 990 disclosures	Loss of 340B eligibility = millions in savings lost
Education / EdTech	R2T4 refund obligations; UBIT for nonprofits	Existential: Title IV loss from financial ratio failures
Real Estate	1031 exchange timing; depreciation recapture (Sec. 1250)	Tax-free exchange of multi-million capital gains
Infrastructure / Energy	ITC/PTC monetization; MACRS 5-year depreciation	$30M+ year-1 tax shield on $280M solar project
Financial Services	CECL deferred tax timing; Basel III capital consumption	Taxable income in loss years from CECL timing
SaaS + Hardware	Section 301 tariffs; bundled sales tax treatment	25% tariff on China-sourced hardware = 5–10pt GM hit
Creator Economy	1099-NEC at scale; SE tax for creators	$7M+ penalty exposure from non-filing at 120K creators
Multi-Sided Ecosystem	Pillar Two; CbCR; antitrust fine provisioning	Billions in restructured tax exposure post-Pillar Two
Web3 / Crypto	Crypto property treatment; staking income character	Ordinary income on all DeFi yield; every swap is taxable

SECTION 5

COMPLETE METRICS AND FORMULAS COMPENDIUM — A THROUGH F

The Systems CFO Metrics Compendium

The following compendium covers every significant metric and formula from Parts 1 through 25, organized alphabetically. For each metric the compendium provides: the formula, the model(s) where it is most relevant, and the benchmark or target that defines healthy performance. This is designed as a permanent reference — the single document a Systems CFO reaches for when encountering a metric in a board package, a term sheet, or a management report.

A

Metric	Formula	Model(s)	Benchmark
Adjusted FFO (AFFO)	FFO - Recurring CapEx - Straight-line rent adj.	Real Estate / REITs (19)	Better cash distribution proxy than FFO
Annual Recurring Revenue (ARR)	MRR x 12	SaaS (2,3)	Primary SaaS growth KPI; track waterfall
App Store Conversion Rate	Installs / Store Page Views	App Store (7)	>2.5% good; >8% excellent
AR Coverage Ratio (ACL/NPL)	Allowance for Credit Losses / Non-Performing Loans	Financial Services (21)	>1.0x adequate; >1.5x strong
Asset Turnover	Revenue / Average Total Assets	Manufacturing (12)	Rising = better capital utilization
Average Contract Value (ACV)	Total New ARR / New Logos in Period	SaaS (2)	Track trend; declining = market shift signal
Average Order Value (AOV)	Total Revenue / Total Orders	DTC (9), Retail (14)	Track trend; rising = upsell success
Average Transaction Value (ATV)	Net Sales / Total Transactions	Retail (14)	Component of same-store sales growth

B

Metric	Formula	Model(s)	Benchmark
Billings	Revenue + Change in Deferred Revenue	SaaS (2)	Billings growth > rev growth = acceleration

Metric	Formula	Model(s)	Benchmark
Blended Bill Rate	Total Revenue / Total Billed Hours	Prof. Services (15)	Declining = pricing pressure or mix shift
Blended CAC	Total Marketing Spend / New Customers	All acquisition models	Must be < LTV / 3
Blended Take Rate	Total Net Revenue / Total GMV	Marketplace (1,5)	8%–25% depending on category
Box Gross Margin	(Box Price - Product - Packaging - Assembly) / Price	Subscription Box (11)	>40% pre-fulfillment
Break-Even Volume	Fixed Costs / (Price - Variable Cost/unit)	Manufacturing (12)	Model explicitly; volume below = loss
Burn Multiple	Net Cash Burned / Net New ARR	SaaS (2,3), Platform (4)	<1.5x healthy; <1.0x excellent
Burn Rate (monthly)	Monthly net cash outflow	All startup models	Benchmark to 18+ months of runway

C

Metric	Formula	Model(s)	Benchmark
CAC (Customer Acquisition Cost)	(Sales + Marketing) / New Customers	All subscription/recurring models	Must be < 1/3 of LTV
CAC Payback Period	CAC / (Monthly Revenue per Customer x GM%)	SaaS (2), DTC (9), App (7)	<12 months excellent; <24 months good
Capacity Factor (Renewables)	Actual Generation / Max Possible Generation	Infrastructure/Energy (20)	Solar 20%–30%; Wind 25%–45%
Capacity Utilization (Manufacturing)	Actual Units / Rated Capacity	Manufacturing (12)	>85% excellent; <70% = under-absorption risk
Cap Rate	NOI / Property Value	Real Estate (19)	Lower = higher value; compare to market
Cash Conversion Cycle (CCC)	DIO + DSO - DPO	DTC (9), Wholesale (10)	<60 days healthy
Cash-on-Cash Return	Annual Pre-Tax Cash Flow / Total Cash Invested	Real Estate (19)	>8% target for stabilized asset

Metric	Formula	Model(s)	Benchmark
Chargeback Rate	Chargebacks / Total Invoices (Wholesale)	Wholesale (10)	<2% excellent; >5% = compliance problem
Clean Claim Rate	Claims passing without errors / Total submitted	Healthcare (17)	>95% target
Client Concentration	Top client revenue / Total revenue	Prof. Services (15), Staffing (16)	<20% for any single client
Cohort Default Rate (CDR)	Federal loan defaulters / Total borrowers	Education (18)	<30%; >30% triggers sanctions
Commitment Utilization Rate	Consumed ARR / Committed ARR	Usage-Based SaaS (3)	>85% signals healthy renewal prospects
Contribution After Marketing (CAM)	Pre-Mktg CM% - Marketing % of Revenue	DTC (9)	>8% healthy; >15% excellent
Contribution Margin (pre-marketing)	GM% - Fulfillment% - Returns% - Payment%	DTC (9)	>35% viable unit economics
Conversion Rate (eCommerce)	Orders / Website Sessions	DTC (9)	>2.5% good; >4% excellent

D–E

Metric	Formula	Model(s)	Benchmark
Daily Active Users / MAU (DAU/MAU)	DAU / Monthly Active Users	Platform (4), Ecosystem (24)	>50% exceptional engagement
Days Cash on Hand	Cash / (Operating Expenses / 365)	Healthcare (17), Education (18)	>150 days excellent
Days Inventory Outstanding (DIO)	(Avg Inventory / COGS) x 365	DTC (9), Manufacturing (12)	<90 days healthy
Days in AR (Healthcare)	Net AR / (NPSR / 365)	Healthcare (17)	<50 days hospital; <35 days physician
Days Payable Outstanding (DPO)	(Avg AP / COGS) x 365	DTC (9), Wholesale (10)	>45 days helps cash cycle

Metric	Formula	Model(s)	Benchmark
Days Sales Outstanding (DSO)	(Avg AR / Revenue) x 365	Prof. Services (15), Staffing (16)	<45 days target
Days WIP Outstanding (DWO)	Avg WIP / (Revenue / 365)	Prof. Services (15)	<30 days target
Debt Service Coverage Ratio (DSCR)	NOI or EBITDA / Annual Debt Service	Real Estate (19), Infra (20)	>1.25x minimum; >1.40x comfortable
Denial Overturn Rate	Appealed denials overturned / Total appealed	Healthcare (17)	>60% target
Developer Funnel Conversion	Paid developers / Total signups	Platform / API (4)	10%–25% paid conversion rate
Direct Advertising Revenue %	Direct-sold revenue / Total ad revenue	Advertising (6)	>40% target for premium yield
Distribution (# of Doors)	Retail locations carrying the brand	Wholesale (10)	Track trend; declining = shelf threat
Effective CPM (eCPM)	Total Ad Revenue / (Total Impressions / 1,000)	Advertising (6)	Track trend vs. prior year
Efficiency Ratio (Bank)	Non-Interest Expense / (NII + Non-Interest Income)	Financial Services (21)	<60% healthy; <50% efficient
Equity Multiple (RE)	Total Distributions / Total Equity Invested	Real Estate (19)	>2.0x good; >3.0x excellent
Experience Modification Factor (e-mod)	Actual Claims / Expected Claims ratio	Staffing (16)	<1.0 favorable; <0.85 excellent

F

Metric	Formula	Model(s)	Benchmark
Fill Rate (Marketplace)	Successful transactions / Total buyer requests	Marketplace (1)	>70% consumer; >85% B2B
Fill Rate (Advertising)	Impressions sold / Total available impressions	Advertising (6)	>85% excellent; <70% = yield audit

Metric	Formula	Model(s)	Benchmark
Financial Responsibility Composite	DOE composite of Equity + Primary Reserve + Net Income ratios	Education (18)	>1.5 satisfactory; <1.0 provisional
First Pass Yield	Units passing QC on first attempt / Total units	Manufacturing (12)	>98% excellent
Float Balance (Marketplace)	(Monthly GMV / 30) x Avg Payout Delay (days)	Marketplace (1), Embedded Finance (5)	Track interest income on float
Four-Wall EBITDA	Store Revenue - All Direct Store Costs	Retail (14), Franchise (13)	>12% excellent; <5% fragile
Free Tier CAC	Monthly free tier infra cost / Paid conversions	Platform / API (4)	Must be <33% of converted developer LTV
Funds From Operations (FFO)	Net Income + Depreciation - Gains on Sales	Real Estate REITs (19)	REIT standard profitability metric

SECTION 6

COMPLETE METRICS COMPENDIUM — G THROUGH N

Metrics Compendium: G through N

G–I

Metric	Formula	Model(s)	Benchmark
Gain-on-Sale Margin	Gain on Sale / Origination Volume	Financial Services (21)	Track trend; compression = secondary market risk
Gross Merchandise Value (GMV)	Total transaction value on platform	Marketplace (1,5)	Primary marketplace volume metric
Gross Revenue Churn	(Churned + Contracted ARR) / Beginning ARR	SaaS (2)	<5% annual excellent; <10% acceptable
GPU Utilization Rate	Revenue-generating GPU-hrs / Total GPU-hrs	Data / AI (8)	>70% target; <50% = over-provisioning

Metric	Formula	Model(s)	Benchmark
Incremental Borrowing Rate (IBR)	Rate at which entity would borrow to fund asset use	All (ASC 842 leases)	Use in ROU asset / lease liability calc.
Initial Markup % (IMU)	(Retail Price - Cost) / Retail Price	Retail (14)	Track vs. maintained markup; gap = shrinkage
Infrastructure Cost per Unit	Variable Infra Cost / Units Consumed	Usage-Based SaaS (3), Platform (4)	Must decline QoQ as scale grows
Initial Franchise Fee Revenue	Fees recognized per ASC 606 in period	Franchise (13)	Recognized over pre-opening period, not at signing
Installed Base (Active Devices)	Total devices under active subscription	SaaS + Hardware (22)	Primary scale metric; net adds monthly
Inventory Turns	Annual COGS / Average Inventory	All goods businesses (9–14)	Varies by category; higher = better

L–M

Metric	Formula	Model(s)	Benchmark
Labor Efficiency Variance (LEV)	(Actual Hrs - Std Hrs Allowed) x Std Rate	Manufacturing (12)	Unfavorable = productivity issue
Labor Rate Variance (LRV)	(Actual Rate - Std Rate) x Actual Hours	Manufacturing (12)	Unfavorable = overtime or mix issue
Leverage Ratio (Bank)	Tier 1 Capital / Average Total Assets	Financial Services (21)	>4.0% minimum; >5.0% well-capitalized
Leverage Ratio (Prof. Svcs)	Non-partner staff / Partner headcount	Prof. Services (15)	>5:1 healthy for profitability
Loan-to-Cost (LTC)	Construction Loan / Total Project Cost	Real Estate Development (19)	<75% typical lender max
Loan-to-Value (LTV)	Outstanding Loan / Property Value	Real Estate (19)	<70% healthy; >80% overleveraged
Logo Churn Rate	Customers Lost / Customers at Start	SaaS (2)	<5% annual excellent

Metric	Formula	Model(s)	Benchmark
LTV (Customer Lifetime Value)	Annual GP per Customer / Annual Churn Rate	All subscription models	Must exceed CAC by >3x
LTV:CAC Ratio	Customer LTV / Customer CAC	All acquisition models	>3x floor; >5x healthy; >8x exceptional
Magic Number (SaaS)	Net New ARR / Prior Quarter S&M; Spend	SaaS (2)	>1.0 excellent; >0.75 healthy
Maintained Markup % (MMU)	IMU - Markdown% - Shrinkage% - Discount%	Retail (14)	Equals reported gross margin %
Markdown % of Sales	Total Markdown $ / Net Sales	Retail (14)	<5% excellent; >15% = assortment issue
Marketing Efficiency Ratio (MER)	Total Revenue / Total Marketing Spend	DTC (9)	Target = 1 / Pre-Marketing CM%
Material Price Variance (MPV)	(Actual Price - Std Price) x Actual Qty	Manufacturing (12)	Unfavorable = commodity inflation
Material Usage Variance (MUV)	(Actual Qty - Std Qty Allowed) x Std Price	Manufacturing (12)	Unfavorable = yield or scrap issue
Monthly Churn Rate (Sub Box)	Cancellations / Beginning Subscribers	Subscription Box (11)	<3% excellent; >7% concerning
Monthly Recurring Revenue (MRR)	Sum of monthly recurring contract values	SaaS (2)	Track MoM net change; waterfall required
MSR Fair Value / UPB	MSR Fair Value / Unpaid Principal Balance	Financial Services (21)	0.8%–1.5% of UPB for 30-yr mortgages

N

Metric	Formula	Model(s)	Benchmark
Net Charge-Off Rate (NCO)	Net Charge-offs (annualized) / Avg Loan Balance	Financial Services (21)	<1% excellent; varies by loan type
Net Interest Margin (NIM)	(Interest Income - Interest Expense) / Earning Assets	Financial Services (21)	2.5%–4.5% banks; 8%–15% FinTech
Net New ARR	New + Expansion - Contraction - Churn ARR	SaaS (2)	Must be positive and growing

Metric	Formula	Model(s)	Benchmark
Net Operating Income (NOI)	Effective Gross Income - Operating Expenses	Real Estate (19)	Primary real estate value driver
Net Patient Revenue	Gross Charges - Contractual Adjustments - Charity	Healthcare (17)	Recognize per ASC 606 portfolio method
Net Revenue Retention (NRR)	(Beg + Expansion - Contraction - Churn) / Beg ARR	SaaS (2,3)	>120% exceptional; >100% healthy
Net-to-Gross Ratio (Healthcare)	Net Patient Revenue / Gross Charges	Healthcare (17)	Track trend; reflects payer mix and CDM
New Store Payback Period	Total Store Investment / Annual Four-Wall EBITDA	Retail (14)	<3 years target; <5 years acceptable
NOI Growth Rate	(Current NOI - Prior NOI) / Prior NOI	Real Estate (19)	>3% annually = healthy asset management

SECTION 7
COMPLETE METRICS COMPENDIUM — O THROUGH Z

Metrics Compendium: O through Z

O–P

Metric	Formula	Model(s)	Benchmark
Occupancy Rate (Real Estate)	Occupied SF or Units / Total Leasable	Real Estate (19)	>93% stabilized; <85% = leasing concern
OEE (Overall Equipment Effectiveness)	Availability x Performance x Quality rates	Manufacturing (12)	>85% world-class
Overhead Absorption Rate	Budgeted Overhead / Budgeted Activity (DLH)	Manufacturing (12)	Recalculate annually; >95% absorption good
Overhead Volume Variance	(Budgeted Hrs - Std Allowed Hrs) x Rate	Manufacturing (12)	Under-absorption = volume below budget

Metric	Formula	Model(s)	Benchmark
Payer Mix %	% of revenue by payer type	Healthcare (17)	Commercial % rising = favorable
Payment Attachment Rate	TPV / GMV	Embedded Finance (5)	>70% target
PPA Revenue	Annual Generation (MWh) x PPA Price ($/MWh)	Infrastructure/Energy (20)	Primary contracted energy revenue metric
Programmatic Revenue %	Programmatic / Total Ad Revenue	Advertising (6)	Rising = more intermediary leakage (negative)
Protocol Revenue	Total fees collected by DeFi protocol from users	Web3 / Crypto (25)	Track vs. operating costs for sustainability

Q–R

Metric	Formula	Model(s)	Benchmark
Quick Ratio (SaaS)	(New + Expansion MRR) / (Churn + Contraction MRR)	SaaS (2)	>4 excellent; >2 healthy; <1 contracting
Rate Base (Utility)	Net Plant + CWIP - ADIT + Working Capital	Infrastructure (20)	Primary regulated utility value metric
Realization Rate	Net Fees Collected / Gross Fees Billed	Prof. Services (15)	>92% target; <85% = billing problem
Rent to Sales Ratio	Total Occupancy Cost / Net Sales	Retail (14), Franchise (13)	<15% target; >20% = underperformance
Repeat Purchase Rate	Customers with ≥2 purchases / Total buyers	DTC (9), Marketplace (1)	>35% within 90 days excellent
Return on Assets (ROTA)	Net Income / Average Total Assets	Financial Services (21)	>1.0% banks; >1.5% FinTech
Return on Equity (ROE)	Net Income / Average Equity	Financial Services (21)	>10% target; >15% exceptional
Return on Cost (ROC)	Stabilized NOI / Total Project Cost	Real Estate Development (19)	Compare to exit cap rate; spread >150bps
Revenue per Employee	Total Revenue / Total Headcount	All models	Rising = productivity improvement

Metric	Formula	Model(s)	Benchmark
Revenue per Square Foot	Annual Net Sales / Total Selling SF	Retail (14)	>$400/sqft excellent
Revenue per 1,000 API Calls	Total Revenue / (Total Calls / 1,000)	Platform / API (4)	Must be stable or improving
Royalty Compliance Rate	Royalties paid on time / Total due	Franchise (13)	>97% excellent; <90% = financial stress
Rule of 40	Revenue Growth % + EBITDA Margin %	SaaS (2,3), Platform (4)	>40 healthy; >60 exceptional

S

Metric	Formula	Model(s)	Benchmark
S&M; as % of Revenue	S&M; Expense / Revenue	All growth models	<40% at scale; declining trend essential
Sales per Labor Hour	Net Sales / Total Store Labor Hours	Retail (14)	Rising = improving labor productivity
Same-Store Sales Growth (SSSG)	(Current comp sales - Prior) / Prior	Retail (14), Franchise (13)	>2% positive; negative = brand erosion
Scrap Rate	Scrap Units / Total Units Produced	Manufacturing (12)	<2% target
Sell-Through Rate	Units Sold / (Units Received + Beginning Inventory)	Retail (14), DTC (9)	>70% target
Seller Utilization Rate	Active sellers / Total registered sellers	Marketplace (1)	>40% is healthy
Shrinkage % of Sales	Inventory Shrinkage / Net Sales	Retail (14)	<1% excellent; 1%–2% industry average
Skip Rate (Subscription Box)	Boxes skipped / Total expected boxes	Subscription Box (11)	<5% healthy
Stablecoin Runway	Stablecoin Balance / Monthly Opex	Web3 / Crypto (25)	>24 months minimum
Subscriber CAC	Total Acquisition Marketing / New Subscribers	Subscription Box (11)	Must be <33% of subscriber LTV

Metric	Formula	Model(s)	Benchmark
System-Wide Sales (SWS)	Total gross sales across all franchise units	Franchise (13)	Primary franchise volume metric

T–Z

Metric	Formula	Model(s)	Benchmark
Take Rate (Blended)	Net Revenue / GMV	Marketplace (1,5)	8%–25% depending on category
Time to First API Call	Avg hours from signup to first API call	Platform / API (4)	<24 hours excellent
Time-to-Fill (Staffing)	Days from client request to worker start	Staffing (16)	<5 days light industrial; <15 days professional
Title IV Revenue %	Title IV Aid / Total Institutional Revenue	Education (18)	<90% required for for-profit institutions
Total Value Locked (TVL)	Total value of assets in DeFi protocol	Web3 / Crypto (25)	Primary DeFi health metric
Trade Spend as % of Gross Revenue	Total trade deductions / Gross revenue	Wholesale (10)	15%–30% CPG; rising = trade spend creep
Transaction Count Growth	(Current - Prior transactions) / Prior	Retail (14)	Positive = organic traffic growth
Treasury Stablecoin Concentration	Stablecoin value / Total treasury value	Web3 / Crypto (25)	>40% recommended for operating reserves
Utilization Rate (Prof. Svcs)	Billable Hours / Available Hours	Prof. Services (15)	70%+ firm-wide; level-specific benchmarks vary
Virtual Currency Breakage Rate	Unspent coins / Total coins sold (12M rolling)	App Store (7), Creator (23)	8%–25% typical; recognize proportionally
Warranty Claim Rate	Claims settled / Installed base (annualized)	SaaS + Hardware (22)	Declining = quality improvement
Weeks of Supply	Current Inventory / Average Weekly Sales	Retail (14), DTC (9)	Track by category; rising = overstocked
Workers' Comp Experience Mod (e-mod)	Actual / Expected Claims Loss Ratio	Staffing (16)	<1.0 favorable; >1.2 = cost of safety failure

Metric	Formula	Model(s)	Benchmark
Write-Off Rate (Prof. Svcs)	Write-offs / Gross Fees Billed	Prof. Services (15)	<8% healthy; >15% = billing problem
Yield-on-Cost Spread	Return on Cost - Market Cap Rate	Real Estate Development (19)	>150bps justifies development risk

SECTION 8
MASTER FORMULAS REFERENCE

The Systems CFO Formula Reference

The following are the most important formulas from all 25 parts, organized by category. These are the calculations a Systems CFO must be able to perform from memory in any board meeting, investor conversation, or management review.

Unit Economics

UNIVERSAL UNIT ECONOMICS

```
LTV = Annual Gross Profit per Customer / Annual Churn Rate
LTV:CAC Ratio = LTV / CAC
CAC Payback (months) = CAC / (Monthly Revenue per Customer x GM%)
Blended CAC = Total Marketing + Sales Spend / Total New Customers

SaaS-Specific:
NRR = (Beg ARR + Expansion - Contraction - Churn) / Beginning ARR
ARR = MRR x 12  |  Net New ARR = New + Expansion - Contraction - Churn
Billings = Revenue + (Ending Deferred Rev - Beginning Deferred Rev)
Quick Ratio = (New + Expansion MRR) / (Churn + Contraction MRR)
Rule of 40 = Revenue Growth % + EBITDA Margin %
Burn Multiple = Net Cash Burned / Net New ARR
```

MARKETPLACE ECONOMICS

```
Net Revenue = GMV x Take Rate + Ancillary Fees
Blended Take Rate = Total Net Revenue / Total GMV
Fill Rate = Successful Transactions / Total Buyer Requests
Float Balance = (Monthly GMV / 30) x Avg Payout Delay Days
Annual Float Income = Float Balance x Short-Term Investment Rate
```

ADVERTISING ECONOMICS

```
Effective CPM = Total Revenue / (Total Impressions / 1,000)
Fill Rate = Impressions Sold / Total Available Impressions
Revenue per 1,000 Users (RPM) = Total Revenue / (MUV / 1,000)
MER (Marketing Efficiency Ratio) = Total Revenue / Total Marketing Spend
Break-Even MER = 1 / Pre-Marketing Contribution Margin %
```

DTC AND PHYSICAL COMMERCE

```
Contribution After Marketing (CAM) = Pre-Mktg CM% - Marketing % of Revenue
DIM Weight (lbs) = (L x W x H inches) / 139  |  Billable = MAX(Actual, DIM)
Landed Cost = Ex-Factory + Freight + Duty + Brokerage + Domestic Freight
Cash Conversion Cycle = DIO + DSO - DPO
Inventory Turns = Annual COGS / Average Inventory
Returns Reserve = Net Revenue x Expected Return Rate
```

MANUFACTURING

```
Standard Cost = Direct Materials + Direct Labor + Applied Overhead
Overhead Absorption Rate = Budgeted Overhead / Budgeted Activity
Material Price Variance = (Actual Price - Std Price) x Actual Qty
Material Usage Variance = (Actual Qty - Std Qty Allowed) x Std Price
Labor Rate Variance = (Actual Rate - Std Rate) x Actual Hours
Labor Efficiency Variance = (Actual Hours - Std Hours Allowed) x Std Rate
Break-Even Volume = Fixed Costs / (Price - Variable Cost per Unit)
```

REAL ESTATE AND INFRASTRUCTURE

```
NOI = Effective Gross Income - Operating Expenses
Cap Rate = NOI / Property Value  |  Property Value = NOI / Cap Rate
DSCR = NOI or EBITDA / Annual Debt Service  (target: >1.25x)
Cash-on-Cash Return = Annual Pre-Tax Cash Flow / Total Cash Invested
IRR = Discount rate making NPV of all cash flows = 0
Equity Multiple = Total Distributions / Total Equity Invested
AFUDC = CWIP Balance x AFUDC Rate (approved by regulator)
PPA Revenue = Annual Generation (MWh) x PPA Price ($/MWh)
```

FINANCIAL SERVICES

```
NIM = (Interest Income - Interest Expense) / Avg Earning Assets
ROE = Net Income / Avg Equity  |  ROTA = Net Income / Avg Total Assets
ROE = ROTA x Leverage (Equity Multiplier)
CECL Allowance = Balance x PD x LGD x Remaining Life Factor
Gain on Sale = (Sale Proceeds + MSR FV) - Loan Carrying Amount
ABL Borrowing Base = (AR x 85%) + (Inventory x 50%)
Warehouse Facility Cost = Drawn Balance x (SOFR + Spread)
```

PROFESSIONAL SERVICES

```
Utilization Rate = Billable Hours / Available Hours
Realization Rate = Net Fees Collected / Gross Fees Billed
Net Effective Bill Rate = Gross Bill Rate x Realization Rate
Revenue per Professional = Net Revenue / Total Professional Headcount
Blended Bill Rate = Total Revenue / Total Billed Hours
Cash Conversion = DWO + DSO  (target: <75 days combined)
```

SECTION 9

CFO DECISION FRAMEWORK: CHOOSING THE RIGHT FINANCIAL ARCHITE

The Systems CFO Decision Framework

When a CFO encounters a new business model — through a new product launch, an acquisition target, a new channel, or a new competitive entrant — the first discipline is financial architecture diagnosis: identifying

which model (or combination of models) the business operates, what revenue recognition treatment applies, what cost structure is appropriate, and what metrics should govern performance evaluation. The following framework guides that diagnosis.

Step 1: Classify the Revenue Model

Revenue Question	If Yes...	If No...
Does the company take title to goods or bear inventory risk?	Physical goods model (Parts 9–14)	Platform, services, or digital model
Is revenue recurring and contractual?	Subscription / SaaS architecture (Parts 2,3,11)	Transactional or usage-based model
Does revenue scale with customer usage rather than seats?	Consumption / usage-based model (Part 3)	Seat-based SaaS or fixed-fee service
Does the company connect two distinct groups (buyers/sellers)?	Marketplace or platform model (Parts 1,4,5)	Single-sided business; direct relationship
Is the primary asset human expertise and time?	Professional services model (Parts 15–17)	Capital, technology, or product business
Does the company own capital assets that generate revenue?	Asset-intensive model (Parts 19–21)	Asset-light model; leverage or license

Step 2: Identify the Key Financial Architecture Choices

- Revenue recognition: Point-in-time or over time? Principal or agent? Variable consideration estimate required?
- Cost structure: Fixed vs. variable? Gross margin ceiling and floor by model? What drives the marginal cost of one more unit?
- Capital intensity: What assets must be owned? What can be rented or outsourced? What is the working capital cycle?
- Unit economics viability: Is LTV > 3x CAC? Is contribution margin positive? What is the payback period?
- Tax architecture: What is the primary tax risk? What incentives are available? What is the state nexus exposure?
- Metrics: What are the 5 to 8 metrics that most directly predict financial performance for this specific model?

Step 3: Apply the Right Accounting Standards

Standard	Applies When	Key Judgment Required
ASC 606	Revenue from contracts with customers in virtually all models	Performance obligation identification; variable consideration
ASC 326 (CECL)	Loans and financial assets with credit risk	Lifetime expected loss estimation; macro overlay
ASC 842	Leases; also when customer contracts contain embedded leases	Operating vs. finance lease; embedded lease identification
ASC 350-40	Internal-use software development costs	Preliminary vs. application development phase costs
ASC 280	Public companies with multiple operating segments	CODM metric; segment definition; 75% revenue coverage
ASC 460	Warranty obligations on products sold	Claim rate estimation; reserve adequacy
ASC 450	Loss contingencies (litigation, regulatory)	Probable and estimable; disclosure for reasonably possible
ASU 2023-08	Cryptocurrency assets held on balance sheet	Fair value measurement; tabular disclosure requirements
ASC 805	Business combinations (M&A;)	Fair value of acquired intangibles; goodwill determination
ASC 830	Foreign currency transactions and translation	Functional currency; remeasurement vs. translation

SECTION 10
A LETTER TO THE SYSTEMS CFO

A Letter to the Systems CFO

You have now read — or referenced — the financial architecture of 25 distinct business models. Each model has taught something different: the marketplace taught you to think in cohorts and GMV before revenue; SaaS taught you the power of recurring revenue and the discipline of churn management; manufacturing taught you variance analysis and the non-linearity of overhead absorption; healthcare taught you that revenue recognition can be genuinely probabilistic; real estate taught you that tax strategy and financial strategy are the same strategy; crypto taught you to operate with intellectual honesty in the absence of

definitive standards.

What connects all 25 models — and what defines the Systems CFO — is a particular orientation toward financial problems. The Systems CFO does not ask: what are the rules for this situation? The Systems CFO asks: what is the economic reality of this transaction, and what financial architecture most accurately reflects that reality? The rules exist to codify the answer to that second question in specific situations. But the situations that matter most — the novel business model, the hybrid transaction, the product that defies existing categories — are exactly the situations where the rules do not yet exist, and where the CFO must work from principles.

The principles are the same across all 25 models. Revenue is recognized when control transfers and the performance obligation is satisfied. Costs are matched to the revenues they generate. Assets are recorded at what they cost, unless there is strong evidence they are worth less or — under fair value standards — more. Liabilities represent real obligations, not management discretion. And the notes to the financial statements are not a formality — they are the place where the judgment calls that produced the numbers are explained, justified, and subjected to scrutiny.

The CFO who internalizes these principles, who can apply them to any business model and any novel transaction, who documents every judgment and can defend every accounting policy with reference to both the standard and the economic reality it reflects — that CFO is the rare professional that every board, every investor, and every founding team ultimately needs. Not a scorekeeper. Not a compliance officer. An architect of financial clarity.

That is the Systems CFO. That is who this series was written for.

Financial Architecture of Different Business Models — A 26-Part Series

Parts 1–25: Two-Sided Marketplace | SaaS | Usage-Based SaaS | Platform/API | Embedded Finance | Advertising

App Store | Data/AI | DTC | Wholesale | Subscription Box | Manufacturing | Franchise | Retail

Professional Services | Staffing/EOR | Healthcare | Education | Real Estate | Infrastructure/Energy

Financial Services | SaaS+Hardware | Creator Economy | Multi-Sided Ecosystem | Web3/Crypto

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End of Part 26: Master Summary and Complete Metrics Compendium

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