

Great Wall

Making Self-Custody Safe for the Mainstream

“I have never seen an unworried Hodler.”

Executive Summary

T3 Information Security

January 21, 2026

Great Wall: Making Self-Custody Safe for the Mainstream

One-Page Summary

The Problem The rise of “Not your keys, not your coins” has created a paradox: self-custody users are increasingly vulnerable to physical coercion—the “\$5 wrench attack.” In 2025, wrench attacks surged to record levels, and obscurity-based defenses can backfire catastrophically, incentivizing attackers toward greater violence.

Our Solution: Tacit Knowledge-Based Authentication (TKBA)

Great Wall’s proprietary TKBA protocol is the **first and only** system that simultaneously delivers:

- **Deviceless:** No hardware, seed phrase, or object to steal
- **Individual Custody:** True self-custody—no third-party reliance
- **Anti-Obscure:** Security *increases* as attackers learn the protocol
- **Coercion-Resistant:** Requires time + tacit knowledge, neutralizing wrench attacks

Business Model

A high-margin subscription marketplace connecting **Clients** (users needing anonymous, memory-intensive computation) with **Providers** (PC owners monetizing idle capacity via aggressive referral commission). Providers act as a zero-base-cost sales force, driving viral growth and dramatically lowering CAC.

Key Metrics

LTV:CAC Ratio	26:1	Gross Margin	66.64%
CAC Payback	3.20 months	Platform Fee	28%
Year 3 Exit ARR	\$6.60M	Breakeven	Month 25

Investment Opportunity

Seed Round	\$600K	@ \$3.00M post-money	(17-month runway)
Series A (M18)	\$2M	@ \$8.00M post-money	(Scale marketplace)
Target (Y3)		\$17.00–20.00M valuation	

Why Now

- Record wrench attacks in 2025 creating urgent market demand
- First-mover advantage in anonymous computation marketplace
- Capital-efficient, provider-driven growth engine with strong unit economics

From hiding in fear to loud, proud confidence.

Executive Overview

This document presents an investment opportunity in Great Wall, a company whose mission is to solve the single biggest unsolved problem in cryptocurrency—the “\$5 wrench attack”—and the fragility created by obscurity-based security approaches.

The problem:

As self-custody becomes mainstream as captured by the trend “Not your keys, not your coins”, users are increasingly vulnerable to physical threats and coercion—a vulnerability underscored by 2025 and 2026’s record surge in wrench attacks^[1] (see Section 8.3). Great Wall renders forcing a user to give up their assets verging on the impossible.

We envision a future where customers can move from hiding in fear to declaring their security with loud, proud confidence.

The solution:

Our solution is a novel protocol we call **Tacit Knowledge-Based Authentication (TKBA)**. It is the first and only system designed to simultaneously satisfy four crucial security properties that, until now, have been mutually exclusive:

- **Knowledge-Based (Deviceless):** Access is tied only to the user’s mind (their tacit knowledge), not a physical device, seed phrase, or object that can be stolen or seized.
- **Individual Custody:** Upholds the core crypto promise: ‘Not your keys, not your coins.’ The user remains their own bank, with no reliance on third-party custodians.
- **Anti-Obscure (Anti-Fragile):** Obscurity is fragile; anti-obscurity is anti-fragile. TKBA is anti-obscurer. Its security *increases* as attackers learn more about the protocol, as this knowledge acts as a primary deterrent against attacks that cannot succeed.
- **Coercion Resistance:** The protocol’s architecture (requiring both time and tacit knowledge) renders it effectively impossible for an attacker to gain access by force, neutralizing the \$5 wrench attack.

Differentials:

This unique combination of four properties sets Great Wall apart from all existing solutions, each of which suffers from a critical, and often dangerous, flaw.

Method	Deviceless	Individual	Anti-Obscure	Coercion Res.	Examples	Primary Down-side
TKBA	✓	✓	✓	✓	Great Wall.	relies on user not forgetting their tacit knowledge (which we solve via an integrated memory coach).
Physical	✗	✓	✓	✓	physical vault(s), multiple addresses, Shamir's secret sharing / multisig	astronomically high cost and operational complexity, and geographic binding: "Glorified gold." (See Section 8.3 for why this matters now.)
Shared/Delegated	✓	✗	✓	✓	exchanges or co-custody companies: Coinbase, Binance, Casa.	negates the core premise of self-custody: "Not your keys..."
Obscurity-Based	✓	✓	✗	💀	decoy wallets; plausible denial; redirectable time-locked transactions	inevitably backfires: once educated about obscure method, attacker has material incentive towards more violence (torture/assassination).
Vanilla Custody	✓	✓	✓	✗	hardware (Ledger, Trezor, Krux BIP39) or software (Electrum, Exodus, Metamask) wallets	completely vulnerable to a wrench attack.

Monetization:

We are capturing this market via a high-margin subscription marketplace connecting Users (who need security) with Providers (who sell idle computation).

Our marketplace's growth is fueled by a provider-driven referral program. Providers are incentivized via affiliate commission to act as a highly-motivated, zero-base-cost sales force. They naturally recruit Users, creating a powerful and scalable growth engine that dramatically lowers our Customer Acquisition Cost (CAC).

Loud, Proud Apparel (Hybrid Model):

A two-tiered approach combining deterrent marketing with community engagement. Primary deterrent items (stickers/decals) are given away as marketing expenses to maximize adoption and create the "yard sign" network effect. Premium apparel is available through a separate "Superfan Store" for revenue generation. This serves as bonus revenue excluded from primary financial projections.

We believe this will create a virtuous cycle of loud, proud community confidence, exponential growth, brand loyalty, and market dominance.

The investment opportunity:

We are seeking a \$600K seed round to launch and scale the marketplace platform toward a 20.00M valuation by Year 3.

Near-Term Timeline

- MVP Ready — Feb 28, 2026
- First 10 Beta Clients — Mar 10, 2026
- End of Beta (50 Clients) — May 2026

- Scale Marketing / Hire CMO — Jun 2026
- 1,000 Customers — Sep 2026

1 Key Investment Highlights

- 1. Solves the #1 Barrier to Self-Custody:** Addresses the wrench attack, the visceral, unsolved problem that prevents mainstream crypto adoption.
- 2. Building the Loud, Proud, and Free Movement:** Our core purpose is to disrupt the culture of fear. By moving the market from hiding in the shadows to loud, proud, and free, we give users the confidence to embrace self-custody, accelerating crypto adoption and uniting them as part of this mission.
- 3. Creates a “Confident Security” Movement:** The loud apparel is a desirable strategic asset primarily because it signals confident security preparedness. It makes potential attackers understand that users are protected and confident. This builds a loud, proud visible community, driving a virtuous cycle of growth and collective security confidence.
- 4. Capital-Efficient Growth Engine:** Our growth is fueled by an aggressive provider-driven referral program starting at 20.00% lifetime commission until we reach the mark of 20k paying customers to guarantee first mover advantage.
- 5. Exceptional Unit Economics:** This provider-driven growth delivers outstanding LTV:CAC ratios of 26:1, with 3.20-month payback periods.
- 6. Defensible Network Effects:** As the first-mover, our marketplace builds a powerful moat. A growing base of reputable, anonymous providers creates value that competitors cannot easily replicate.
- 7. The Staged Investment Opportunity:** This is a clear, staged path to a 20.00M valuation. The \$600K Seed funds the scalable marketplace. Traction from Phase 1, combined with our protocol-driven “Loud, Proud” movement, drives brand-led acquisition, improves conversion and retention, and reinforces CAC efficiency—de-risking and supporting a **Series A** to scale the marketplace and ecosystem.
- 8. Resistant to AI Bubble:** Our valuation and growth are driven by fundamental, verifiable protocol security and marketplace economics (computation/subscriptions), not by speculative AI hype. This provides a durable, defensible investment independent of the AI market’s volatility.
- 9. Resistant to Semiconductor Volatility:** The dual product strategy provides natural resistance to semiconductor price volatility — rising hardware costs drive cloud adoption while falling costs improve device margins, creating countercyclical revenue stabilization.

10. **Strong Gross Margins:** Our 66.64% gross margin—derived from explicit, auditable COGS components—positions us within the 60–80% marketplace benchmark range, with room for improvement via Lightning Network payment adoption.

2 Business Model: Marketplace + CAC Optimization

2.1 Revenue Stream Segmentation

- **Subscriptions:** Anonymous marketplace for recurring memory-intensive computation services
- **Merchandise (Community Engagement):** Branded items sold via a separate 'Superfan Store' to engage our most passionate users. This is treated as a bonus revenue stream and is not included in the primary financial projections.

2.2 Subscription Service: Anonymous Computation Marketplace

The subscription service operates as a computation matchmaking **marketplace** connecting:

- **Clients:** Users needing recurring memory-intensive computation without owning adequate hardware - anonymity critical for privacy
- **Providers:** PC owners monetizing idle computational capacity - can operate publicly to attract clients

Platform provides anonymous client matching, reputation system, and dispute arbitration.

Key marketplace dynamics:

- Computation jobs are simple but, by design, memory-intensive, lengthy and client demand for them is recurrent
- Anonymity is critical for Clients, while Providers can promote services openly
- We align provider success with platform growth. An aggressive referral commission incentivizes providers to recruit clients, transforming them into a highly-motivated, capital-efficient sales force [2].
- First-mover advantage critical to build reputable user base before competitors
- Tiers differentiate by computation duration: 2, 24, 48 and 168 hours

Table 1: Customer Segment Characteristics

Attribute	Subscription Users	Free Users
Technical Level	Low-Medium	High
Purchase Preference	Recurring	Self-hosted (no subscription)
Price Sensitivity	Medium	High
SAM Size	1,350,000[3, 4]	—

SAM refers to the Serviceable Available Market for subscription users. Free (self-hosted) users are excluded from SAM and related financial projections for simplicity. Merchandise is treated solely as community engagement and is not included in financial projections.

3 Enhanced Business Model with CAC Optimization

3.1 Subscription Pricing (Based on Computation Economics)

Table 2: Anonymous Computation Marketplace Economics

Tier	Delay (Hours)	Price	Mix	Provider Cost	Provider GP	Marketplace Rev
Basic	2	1.25	35%	0.36	0.54	0.35
Medium	24	18.00	40%	4.32	8.64	5.04
Professional	48	42.00	15%	8.64	21.60	11.76
Golden	168	210.00	10%	30.24	120.96	58.80
Weighted Avg		34.94	100.00%			9.78

Note: Provider's costs based on 350W @ \$0.12/kWh, 4.29 runs/month. All values in USD/month.

3.2 Marketplace Economics and Competitive Analysis

Our platform operates with a 28% commission rate, positioning us competitively within the marketplace landscape:

- **Provider's Progressive Markup (2.50–5.00x):**
 - Basic (2.50x): Entry-level commitments with quick turnarounds; lower markup to seed supply and onboard providers
 - Medium (3.00x): Day-scale jobs add coordination and opportunity costs; moderate markup reflects added diligence
 - Professional (3.50x): Multi-day (48h) runs lock capacity and raise reliability risk; premium markup prices scarcity
 - Golden (5.00x): Week-long workloads require sustained resource dedication and scheduling discipline; highest balanced markup secures dependable supply
- **Platform Fee Benchmarks:**
 - Our platform: 28% - includes full-service anonymous matchmaking, reputation system, and dispute resolution
 - Uber: 25% commission[5]
 - Airbnb: 15% total fees[6]

- Amazon Marketplace: 15-45% depending on category[7]
 - Fiverr: 20% from sellers[8]
 - Upwork: 20% for first \$500, then 10%[9]
- **Why Our Economics Work:** Unlike traditional marketplaces that spend 15-30% of revenue on customer acquisition[10], our model creates natural viral growth. Providers actively recruit clients to increase their own revenue, functioning as an unpaid but highly motivated sales force. This alignment means we achieve similar growth with marketing budgets of just \$80-150k annually rather than the \$200-400k typical for our revenue scale.
 - **Provider Economics Remain Attractive:** Even at 28% platform fee, providers earn 1.5–4× their electricity costs as profit depending on tier, creating sustainable incentives for participation. Academic research shows that successful two-sided platforms maintain take rates between 20-30% when providing high-value services[11, 12].

4 Multi-Channel Customer Acquisition

4.1 Annual Marketing Budget Allocation

Year	Budget	Base CAC	New Customers	Total Acquired* Customers
Year 1	\$80,000	\$21.00	3,810	3,810
Year 2	\$120,000	\$21.00	5,714	9,524
Year 3	\$1,000,000	\$21.00	47,619	57,143

*These values don't account for customer churn.

The Year 3 marketing budget increase reflects the aggressive scaling phase funded by Series A, targeting rapid market capture before competitive entry. This spending level is supported by our proven 26:1 LTV:CAC ratio and achieves positive unit economics on each acquired customer.

4.2 Traditional Acquisition Channels

Channel	Budget (USD)	Gross CAC[13]	CAC
Digital (Subs)	60,000	20.00	21.00
Content/SEO (Subs)	25,000	18.00	19.40
Total	85,000		

CAC values reflect an embedded 20.00% reduction from free gift campaigns (keychain + laptop adhesive + shipping), with average cost per user of \$5.00; conservative with external benchmarks of 47% [14].

Free gift components:

- Keychain
- Laptop adhesive
- Shipping (avg cost per user \$5.00)

5 Three-Year Financial Projections

5.1 Revenue Growth Trajectory

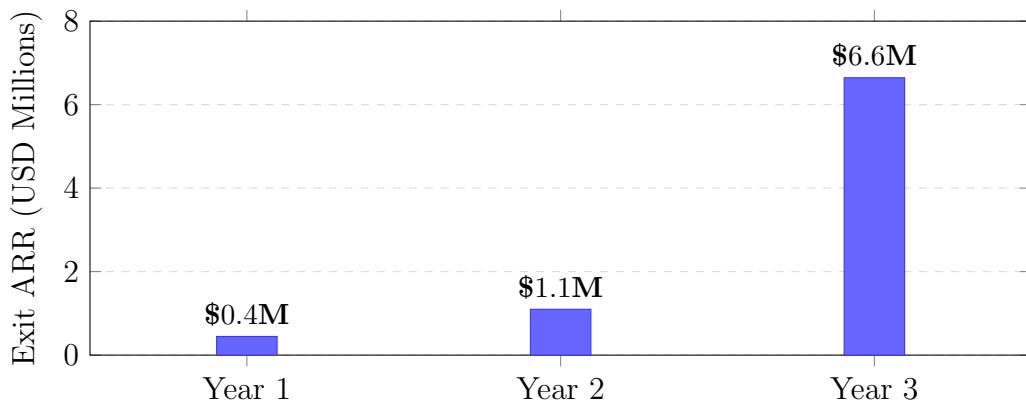


Figure 1: Exit ARR Growth: 145.00% (Y1→Y2) and 505.00% (Y2→Y3)

5.2 Revenue Projections - Exit ARR vs Actual Revenue

Revenue Metric	Year 1 (USD)	Year 2 (USD)	Year 3 (USD)
Exit ARR (for valuation)			
Subscription Exit ARR	447,256	1,097,949	6,644,039
Active Subs (year-end after churn)	3,810	9,353	56,598
Actual Revenue Collected			
Total Revenue (actual)*	242,264	790,514	4,081,958

*Actual revenue accounts for when subscribers join. New subscribers contribute average 6.50 months of revenue in their first year.

5.3 Cost of Goods Sold (COGS)

COGS Component	Year 1 (USD)	Year 2 (USD)	Year 3 (USD)
Payment Processing (10.36%)*	25,092	81,875	422,774
Infrastructure (10.00%)	24,226	79,051	408,196
Support/Disputes (8.00%)	19,381	63,241	326,557
Trust & Safety (5.00%)	12,113	39,526	204,098
Total COGS (33.36%)	80,812	263,693	1,361,625
Gross Profit (66.64%)	161,451	526,821	2,720,334

*Payment processing is 2.90% on gross transaction volume = 10.36% of net revenue. Infrastructure, support, and trust & safety are bottom-up estimates benchmarked against marketplace industry data.

5.4 Operating Expenses

Expense Category	Year 1 (USD)	Year 2 (USD)	Year 3 (USD)
Team Salaries	240,000	600,000	1,200,000
Infrastructure (non-production)*	10,000	20,000	40,000
Legal/Compliance/Insurance	20,000	30,000	40,000
Marketing	80,000	120,000	1,000,000
Total OpEx	350,000	770,000	2,280,000

*Production infrastructure (matching platform, hosting) is included in COGS above. This line covers office tools and non-production systems only.

5.5 Monthly Burn Rate Analysis

Monthly Burn Breakdown	Year 1	Year 2	Year 3
COGS (variable)	\$6,734	\$21,974	\$113,469
Team Salaries	\$20,000	\$50,000	\$100,000
Infrastructure (non-prod)	\$833	\$1,667	\$3,333
Legal/Compliance	\$1,667	\$2,500	\$3,333
Marketing	\$6,667	\$10,000	\$83,333
Total Monthly Burn	\$35,901	\$86,141	\$303,469

Runway Analysis

After Seed (\$600k) 17 months

After Series A (\$2M) 23 months

5.6 Path to Profitability

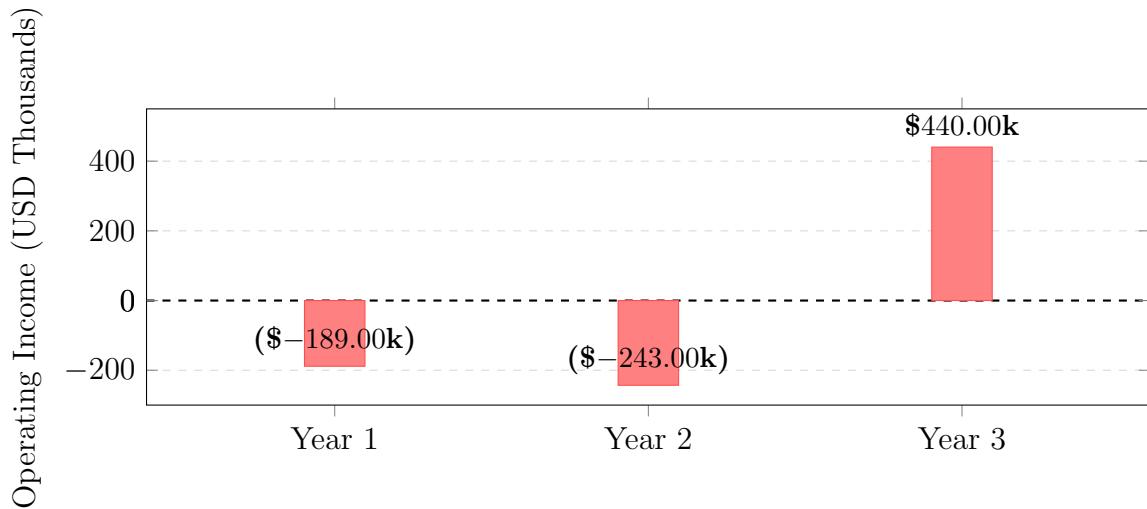


Figure 2: Path to Profitability: Cash flow positive in Month 25

Metric	Value
Target Breakeven	Month 25
Required Subscribers	9,840
Monthly Gross Profit at Breakeven	\$64,150
Monthly Fixed Costs at Breakeven	\$64,167

Metric	Year 1	Year 2	Year 3
Net Revenue (actual)	242,264	790,514	4,081,958
Gross Profit	161,451	526,821	2,720,334
Gross Margin	66.64%	66.64%	66.64%
Active Subscribers (year-end)	3,810	9,353	56,598
Marketplace's Monthly Rev/User	\$9.78	\$9.78	\$9.78

5.7 Customer Metrics

Metric	Year 1	Year 2	Year 3
New Subscribers (Paid)	3,810	5,714	47,619
Cumulative Subs (w/churn)	3,810	9,353	56,598
Annual Churn Rate	5.00%	4.50%	4.00%
CAC	\$21	\$21	\$21
LTV:CAC Ratio	26:1	26:1	26:1

Shown CAC (\$21) already embeds the 20.00% free gift effect and includes gift cost[14].

Table 3: CAC Inputs (Digital)

Input	Value
Baseline CAC (no gift)	\$20
Free gift reduction*	20.00%
Resulting CAC	\$21
Avg gift cost per user	\$5.00

*The reduction reflects lower cost-per-lead due to higher conversion rates; the final CAC then re-incorporates the \$5.00 cost of the gift and shipping.

Table 4: Three-Year Profit & Loss Summary

(USD)	Year 1	Year 2	Year 3
Revenue			
Net Revenue (actual)	242,264	790,514	4,081,958
Cost of Goods Sold			
Payment Processing	25,092	81,875	422,774
Infrastructure (production)	24,226	79,051	408,196
Support/Disputes	19,381	63,241	326,557
Trust & Safety	12,113	39,526	204,098
Total COGS	80,812	263,693	1,361,625
Gross Profit	161,451	526,821	2,720,334
Operating Expenses			
Team Salaries	240,000	600,000	1,200,000
Marketing	80,000	120,000	1,000,000
Infrastructure (non-production)	10,000	20,000	40,000
Legal/Compliance	20,000	30,000	40,000
Total OpEx	350,000	770,000	2,280,000
Operating Income (Loss)	-188,549	-243,179	440,334

Path to profitability: Cash flow positive in Month 25 at 9,840 active subscribers

6 Valuation Analysis

6.1 Multiple-Based Valuation

Component	Multiple[15, 16]	Y1 Value	Y2 Value	Y3 Value
Subscription Exit ARR	3.00x	1,341,768	3,293,846	19,932,118
Total Valuation		1,341,768	3,293,846	19,932,118

6.2 Investment Timeline and Valuation Progression

Stage	Timing	Funding	Valuation	Basis
Seed	Month 0	\$600K	\$3.00M	Market comparables*
Series A	Month 18	\$2M	\$8.00M	Financing-driven; supported by forward net ARR trajectory, CAC efficiency, and movement-led GTM
Target	Year 3	0	\$17.00–20.00M	\$6.60M × 2.50–3.00 (ARR mult.)
Optimistic	Year 3	0	\$20.00–27.00M	Premium multiples

*Pre-revenue valuation based on team, TAM, and marketplace model - not formulaic ARR figures refer to net platform revenue (take rate), not GMV.

Series A valuation rationale The Series A valuation is supported by a combination of capital efficiency, de-risked execution, and a defensible go-to-market engine:

- **Protocol innovation + movement as GTM:** Brand-led acquisition (organic inbound, press, community), conversion uplift (deterrence narrative), and retention uplift (identity/community). We track this via CAC, conversion, churn, and referral rate.
- **Capital efficiency:** CAC of \$21 with 3.20-month payback supports scalable growth with modest marketing spend.
- **De-risking milestones:** MVP/beta traction and a clear path to breakeven by Month 25 reduce downside risk ahead of scale.

6.3 Growth & Unit Economics Supporting Valuation

- **Accelerating ARR Growth:** Projected scaling from 145.50% (Y1-Y2) to 505.10% (Y2-Y3).
- **Exceptional Unit Economics:** A powerful 26:1 LTV:CAC ratio enables our aggressive growth strategy.

- **Aggressive, Data-Driven Acquisition:** Scaling marketing from \$80,000 (Y1) to \$1,000,000 (Y3). This investment is fueled by our proven 26:1 LTV:CAC.
- **Provider Growth Flywheel:** Organic alignment, amplified by targeted referral and rev-share programs, to rapidly scale network density.
- **Strategic Market Position:** Competitive 28% take rate with a clear strategy to capture 15.00% market share.
- **Rule of 40 Performance:** Year 3 projects 505.00% ARR growth + 11.00% operating margin = 516.00 score, significantly exceeding the 40% threshold that signals sustainable, efficient growth[16].

6.4 Gross Margin Context

Our 66.64% gross margin positions us within industry benchmarks:

- **Marketplace benchmark:** 60–80% gross margin typical for tech-enabled marketplaces[10]
- **SaaS benchmark:** 70–85% for subscription software[16]
- **Our position:** 66.64% reflects conservative COGS assumptions including 10.36% payment processing (on net revenue basis), with room for improvement via Lightning Network adoption

7 Unit Economics Summary

Metric	Subscriptions
Average Revenue (Marketplace)	\$117/year
Gross Margin	66.64%
CAC	\$21.00
LTV	\$548
LTV:CAC Ratio	26:1
Payback Period	3.20 months

7.1 Gross Margin Breakdown

Our 66.64% gross margin is derived bottom-up from explicit COGS components, positioning us conservatively within the 60–80% marketplace benchmark range[10]:

COGS Component	% of Net Rev	Description
Payment Processing	10.36%	2.90% on GMV ÷ 28.00% take rate
Infrastructure	10.00%	Matching platform, hosting, databases
Support/Disputes	8.00%	Customer support, dispute arbitration
Trust & Safety	5.00%	Fraud prevention, security, compliance
Total COGS	33.36%	
Gross Margin	66.64%	= 100% – COGS

7.2 Key Economic Insights

- **Subscription Economics:** Our 66.64% gross margin reflects the capital-light marketplace model. COGS are dominated by payment processing (10.36% of net revenue), with additional costs for infrastructure, support, and trust/safety operations. We plan to incentivize Lightning Network adoption to reduce payment processing costs over time.
- **Competitive Platform Fee:** 28% take rate aligns with industry leaders (Uber 25%, Fiverr 20%, Amazon 15-45%)[5, 8, 7]
- **Customer Acquisition Efficiency:** Our platform design creates natural viral growth through provider incentives. Industry benchmarks show marketplaces typically spend \$35-50 per customer acquired[10], while our blended CAC is just \$21. This efficiency stems from providers actively recruiting clients to increase their own revenue—a dynamic documented in successful platforms like Uber (drivers recruiting riders) and Airbnb (hosts encouraging bookings)[17, 18]. Includes the free gift effect (20.00% CAC reduction) observed in case studies[14].

7.2.1 Provider-Driven Growth Economics

Academic research on two-sided platforms demonstrates that when supply-side participants directly benefit from demand growth, customer acquisition costs can decrease by 40-70% compared to traditional advertising[2]. In our model, providers who recruit just one additional client increase their monthly profit by \$0.54–120.96 (depending on tier), creating powerful organic growth incentives. This dynamic explains why our \$80–120k annual marketing budgets achieve growth rates comparable to marketplaces spending \$200-400k[19].

7.3 Cohort Economics

- **Customer Lifetime:** Average 7.00 years (capped at 7.00 years)
- **Churn Improvement:** From 5.00% to 4.00% annually

- **Revenue Retention:** Strong unit retention with growing revenue per user through tier upgrades

7.4 LTV Calculation Transparency

Component	Value	Calculation
Annual Platform Revenue/Sub	\$117.39	Weighted avg across tiers
Gross Margin	66.64%	Derived from COGS
Annual Gross Profit/Sub	\$78.23	Revenue × Margin
Customer Lifetime	7.00 years	min(1/churn, 7.00 cap)
LTV	\$548	GP/year × Lifetime

7.5 Sensitivity Analysis

Unit economics remain robust across a range of input assumptions. The following analysis tests $\pm 20.00\%$ variations in key drivers.

Table 5: LTV:CAC Sensitivity to Individual Input Changes

Scenario	Input Change	LTV:CAC	Payback	vs. Base
Base Case	—	26:1	3.20 mo	—
<i>CAC Sensitivity</i>				
CAC +20.00%	\$25.20	22:1	3.90 mo	-15.00%
CAC -20.00%	\$16.80	33:1	2.60 mo	+27.00%
<i>Churn Sensitivity (LTV capped at 7.00 years)</i>				
Churn +20.00%	5.40%/yr	26:1	3.20 mo	0%*
Churn -20.00%	3.60%/yr	26:1	3.20 mo	0%*
<i>Gross Margin Sensitivity</i>				
Margin +20.00%	79.97%	31:1	2.70 mo	+19.00%
Margin -20.00%	53.31%	21:1	4.00 mo	-19.00%

*Churn changes have no LTV impact because theoretical lifetime (22.22 years) exceeds the 7.00-year cap in all scenarios.

7.5.1 Combined Scenario Analysis

Table 6: Stress Test and Upside Scenarios

Scenario	Assumptions	LTV:CAC	Payback	vs. Base
Base Case	Current projections	26:1	3.20 mo	—
Stress Test	CAC +20.00%, Churn +20.00%, Margin -20.00%	17:1	4.80 mo	-35.00%
Upside	CAC -20.00%, Churn -20.00%, Margin +20.00%	39:1	2.10 mo	+50.00%

7.5.2 Key Takeaways

- **Downside Protection:** Even under stress test conditions (all inputs move adversely by 20.00%), LTV:CAC remains 17:1—well above the 3:1 threshold for healthy unit economics.
- **CAC is the Primary Driver:** A 20.00% CAC increase reduces LTV:CAC by -15.00%, making customer acquisition efficiency our most sensitive lever.
- **Churn Impact is Capped:** Due to our conservative 7.00-year LTV cap, churn variations within $\pm 20.00\%$ have no impact on calculated LTV. This cap provides natural downside protection.
- **Margin Resilience:** Even with 20.00% gross margin compression, LTV:CAC of 21:1 supports aggressive growth investment.

8 Total Addressable Market

Market Segment	Global TAM	Serviceable (SAM)	Target Share
Subscription Users	9,000,000[3, 4, 20, 21]	1,350,000	15.00% (202.00k)

Note: TAM includes password manager users[20, 21], private security/insurance customers[22], and physical vault users[23, 24] seeking digital alternatives. Merchandise buyers overlap with primary segments and serve as a community engagement tool and minor, non-projected revenue stream.

8.1 Market Share Benchmarks

The target market shares are based on comparable first-mover and strategic partnership successes:

- **Subscription (15.00% of SAM):** Aligned with Coinbase's 15% crypto exchange capture[25], Stripe's 20% payment processing share[26], and LastPass/1Password's 10-15% password management penetration[27]
- **Strategic Advantages:** Partnership with market leader provides distribution channels, brand credibility, and accelerated customer acquisition typically doubling organic growth rates[28, 12]

8.2 Market Dynamics

- **Bitcoin Adoption:** Growing mainstream adoption drives demand for security tools
- **Self-Sovereignty Trend:** "Not your keys, not your coins" philosophy expanding market
- **Privacy Concerns:** Increasing demand for anonymous computation services
- **Underserved Market:** Limited competition in anonymous marketplace segment
- **Adjacent Markets:** TAM includes password manager users seeking stronger security solutions[20, 21], customers of private security companies/violence insurance exploring digital alternatives[22], and physical vault users transitioning to digital security[23, 24]

8.3 2025 Market Inflection

The year 2025 witnessed three seemingly unrelated developments:

1. A sharp rise in reported wrench attacks targeting cryptocurrency holders[1, 29, 30, 31]—a trend that continues to the time of writing;
2. The breaking of Bitcoin's historical 3-up-1-down price cycle, with Bitcoin closing the year at a loss in what should have been a positive year[32, 33];
3. A sustained bull market in precious metals[34, 35].

While the causal links between these events remain unproven, a plausible narrative emerges: both large and small crypto holders, increasingly viewing ownership as a security liability, may be diversifying into physical assets. The reasoning is straightforward: if holding cryptocurrency incurs substantial security costs (vaults, alarms, surveillance, armed protection) and usage friction (displacement to sites of custody, extra authentication steps, reduced portability), one might as well bear those costs for precious metals instead, thereby eliminating the technological complexity inherent to crypto custody.

Notably, any such capital flight would likely remain invisible in public data. Holders motivated by security concerns would execute these transitions discretely precisely because,

to them, security through obscurity appears paramount given the gravity and persistence of the wrench attack threat. This suggests the observable trend may significantly underestimate the actual magnitude of the shift. Additionally, that explanation also suggests an *anosognostic* mechanism: the problem, by its nature, causes individuals to prefer, for their own security, not to talk about it, which impedes accurate diagnosis and potential treatments — the exact conditions for “you didn’t know you needed it” innovations.

This dynamic represents a significant tailwind for Great Wall. Rather than abandoning cryptocurrency, holders can retain the benefits of digital assets while neutralizing the security concerns that would otherwise drive them toward traditional stores of value.

8.4 Competitive Landscape

- **Direct Competition:** Limited due to anonymous marketplace complexity
- **Indirect Competition:** Traditional cloud computing lacks privacy features
- **Barriers to Entry:** Trust and reputation system creates moat
- **First-Mover Advantage:** Early provider network difficult to replicate

9 Funding Requirements and Use of Proceeds

9.1 Seed Round (Current)

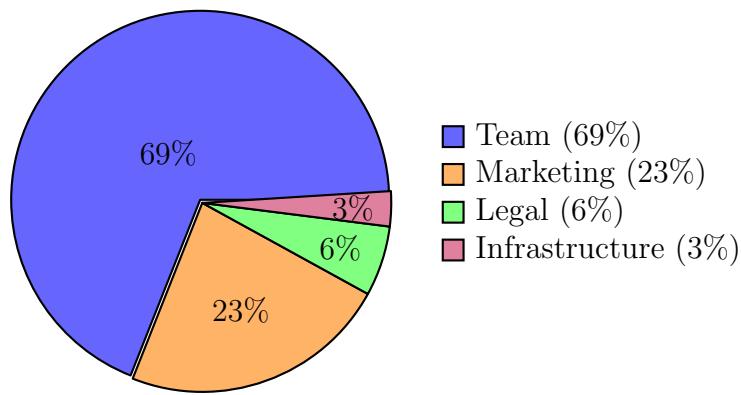


Figure 3: Seed Round Use of Funds (\$600K)

Category	Amount (USD)	Purpose
Team (lean, 17-month plan)	411k	Phased hiring to sustain a lean 17-month runway
Infrastructure (lean, 17-month plan)	17k	Hosting, tooling, and security scaled to match usage growth
Legal / Compliance (17-month coverage)	34k	Legal, compliance, and insurance for regulated operations
Marketing (phased over 17 months)	137k	Customer acquisition paced to demand and liquidity
Total Seed Round	600,000	17-month runway

9.2 Series A Focus (Year 2)

Category	Amount (USD)	Purpose
Platform Scaling	2,000,000	Team growth, ecosystem integrations, market expansion

Series A pricing is supported by de-risked traction and movement-led go-to-market (CAC, conversion, churn, and referral rate), rather than a simple trailing ARR multiple.

9.3 Near-Term Timeline (Next 7 Months)

Milestone	Target Date	Goal
MVP Ready	Feb 28, 2026	MVP feature-complete; internal QA complete
First 10 Beta Clients	Mar 10, 2026	Onboard design partners; collect feedback
End of Beta (50 Clients)	May 2026	Close beta; finalize pricing and onboarding
Scale Marketing / Hire CMO	Jun 2026	Launch paid + referral programs; leadership hire
1,000 Customers	Sep 2026	Scale supply/demand; readiness for broader launch

9.4 Detailed Timeline

Year 1 (Months 0–12): Build + Validate Marketplace

- Month 0: Raise \$600K Seed (20.00% equity), \$3.00M post-money valuation (17-month runway)

- Months 1.00–3.00: Build anonymous matchmaking infrastructure and reputation system
- Months 4.00–6.00: Launch beta with 50 design partners, scale toward 1,000 users
- Months 7.00–12.00: Scale marketplace and validate unit economics
- End of Year 1: 3,810 subscribers; Exit ARR \$0.45M

Year 2 (Months 13–24): Scale + Series A

- Months 13–18: Continue scaling supply/demand, deepen provider network, and expand integrations
- Month 18: Series A \$2M (25.00% equity), \$8.00M post-money valuation
- End of Year 2: 9,353 subscribers; Exit ARR \$1.10M

Year 3 (Months 25–36): Accelerated Growth to Target Valuation

- End of Year 3: 56,598 subscribers; Exit ARR \$6.64M
- Valuation (Target): \$17.00–20.00M
- Valuation (Optimistic): \$20.00–27.00M

Beyond Year 3: Scale and Potential Exit

- Continue scaling beyond Year 3 results via partnerships, integrations, and geographic expansion
- Optional outcomes: strategic exit, Series B, or continued profitable growth depending on market conditions

10 Risk Factors and Mitigation

Risk	Impact	Mitigation
Higher CAC than projected	Lower growth	Provider-driven referrals and channel optimization to reduce CAC; adjust spend mix and creatives based on performance data
Competitive entry	Margin pressure	First-mover advantage, network effects
Regulatory changes	Compliance costs	Conservative approach, legal reserves
Provider availability	Supply constraints	Dynamic pricing, geographic diversity

10.1 Technical Risks

- **Platform Scalability:** Mitigated through cloud infrastructure and modular architecture
- **Security Breaches:** Comprehensive security audits and bug bounty program

10.2 Market Risks

- **Bitcoin Price Volatility:** Business model agnostic to BTC price, focuses on security needs
- **Regulatory Environment:** Proactive compliance strategy, legal counsel engagement
- **Competition from Big Tech:** Anonymous marketplace creates differentiation

10.3 Operational Risks

- **Key Person Dependency:** Build strong team, document processes
- **Provider Churn:** Competitive revenue sharing, loud, proud community building
- **Customer Support Scale:** Automated systems, community support model

11 Possible Future Expansion

These opportunities are not part of the near-term plan or financial model. They may be explored after the marketplace and protocol have scaled, subject to resourcing and traction milestones.

- **Dedicated Hardware Modules (spin-off or partnerships):** Optional devices to extend secure boundaries for advanced users and specialized environments.
- **State Secret Stewardship:** High-assurance workflows for custodianship and controlled disclosure of sensitive governmental materials.
- **Inheritance Protocols:** Policy-driven, time- and knowledge-gated transfer of assets and secrets to designated heirs.
- **Password Manager Applications:** Protocol-backed secrets management with verifiability, auditability, and recovery features.
- **Investigative Journalism Workflows:** Source protection and verifiable access controls for sensitive investigations and disclosures.

11.1 Premium Attention Real Estate: Ad-Supported Revenue

The protocol's weekly memory consolidation requirement creates a unique advertising opportunity: **mandatory, non-skippable engagement** with a high-value, wealth-segmented demographic.

11.1.1 The Asset: Mandatory Weekly Engagement

Unlike optional app engagement, TKBA users *must* complete weekly security runs to maintain protocol integrity. Skipping sessions risks catastrophic forgetting—permanent loss of access to protected assets. This creates approximately 4.29 **captive-attention sessions** per month, or ~52 high-quality touchpoints annually per user.

This mandatory engagement differs fundamentally from typical digital advertising inventory:

- **Zero Skip Rate:** Users cannot abandon sessions without risking asset loss—attention is guaranteed, not hoped for
- **Active Cognitive State:** Memory consolidation tasks require focus; users are mentally engaged, not passively scrolling
- **Predictable Cadence:** Weekly schedule enables precise ad timing, frequency capping, and campaign planning
- **Habit Stacking Opportunity:** Users already in “learning mode” are psychologically primed for adjacent self-improvement products [36]

11.1.2 The Audience: Wealth-Segmented Security Demographic

Physical violence threatens cryptocurrency holders across all economic strata—wrench attacks documented by Lopp [1] target victims from everyday holders to high-profile individuals. Our tiered pricing naturally segments users by wealth:

- **Implicit Wealth Signaling:** Users self-select into tiers based on assets worth protecting; higher tiers correlate with greater holdings
- **No Polling Required:** Tier selection reveals willingness-to-pay without invasive surveys—Golden tier (\$210.00/mo) users demonstrably value security more than Basic tier (\$1.25/mo) users
- **Directed Advertising:** Tier data enables precise ad targeting—premium financial services to high-tier users, mass-market security tools to entry tiers

Our user base self-selects for characteristics that command premium CPMs:

- **Verified Security Investment:** Already paying for protection (not freebie-seekers)
- **Tech-Savvy Early Adopters:** High lifetime value for SaaS, fintech, and premium digital services

- **Privacy-Conscious:** Responsive to products emphasizing security, encryption, and data protection
- **Risk-Aware:** Proactively managing threats—ideal for insurance, legal, and advisory services

11.1.3 Natural Advertising Verticals

Three categories of advertisers align naturally with our user context and tier segmentation:

Mass-Market Security (All Tiers, CPM ~\$15–30):

- VPN and privacy services (NordVPN, ExpressVPN, Mullvad)
- Password managers (1Password, Bitwarden, Dashlane)
- Hardware wallets and cold storage solutions
- Encrypted communication tools (Signal, ProtonMail)
- Identity theft protection services

Wellness & Habit-Building (All Tiers, CPM ~\$15–25):

- Meditation and mindfulness apps (Headspace, Calm, Waking Up)
- Language learning platforms (Duolingo, Babbel)
- Productivity and focus tools (Notion, Obsidian, Todoist)
- Online learning platforms (Masterclass, Coursera, Brilliant)
- Fitness tracking and health optimization

Premium Services for High-Tier Users (Professional/Golden Tiers, CPM ~\$50–150):

- *Wealth Management:* Private banking, family office services, tax optimization advisors
- *Legal & Estate:* Asset protection attorneys, estate planning, crypto-specialized counsel
- *Premium Insurance:* High-value asset coverage, kidnap & ransom policies, cyber liability
- *Executive Security:* Personal protection services, secure travel coordination, threat assessment
- *Luxury Security Hardware:* Premium safes (Casoro, Brown Safe), secure communication devices, armored vehicles
- *Real Estate:* Gated communities, security-focused property developments

The wellness vertical leverages “habit stacking”—users already committed to weekly security discipline convert at above-average rates for adjacent self-improvement products [36]. The premium tier enables *hyper-targeted* placement of high-value services to users who have demonstrably signaled wealth through their subscription choice.

11.1.4 Illustrative Revenue Potential

At scale, this represents meaningful incremental revenue without cannibalizing core subscription economics:

Table 7: Illustrative Ad Revenue at Scale (Year 3 Subscriber Base)

Metric	Conservative	Base	Optimistic
Monthly Active Users	56,598	56,598	56,598
Sessions/User/Month	4.30	4.30	4.30
Ads Shown/Session	1	2	3
Effective CPM	\$15	\$25	\$40
Annual Ad Revenue	\$43,661	\$145,538	\$349,291
% of Subscription ARR	0.70%	2.20%	5.30%

11.1.5 Valuation Implications

Ad-supported revenue diversification strengthens the investment thesis:

- **Multiple Revenue Streams:** Reduces single-source risk, potentially justifying higher valuation multiples
- **High-Margin Incremental Revenue:** Advertising typically carries 70–85% gross margins, improving blended unit economics
- **Strategic Optionality:** Creates partnership opportunities with security and wellness brands seeking our demographic
- **Retention Reinforcement:** Curated, relevant ads (wellness/security tools) may actually enhance user experience rather than degrade it

Note: Ad revenue is excluded from primary financial projections. Implementation would require careful UX design to avoid disrupting the security ritual or undermining brand trust. Premium, opt-in sponsorship models (“This security run is sponsored by...”) may prove more effective than traditional interstitial ads.

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Appendix: Variable Debug Dump

This appendix displays all softcoded variables with automatic validation. Computed values are checked against hardcoded expectations at compile time.

Validation Legend: **Green** = computed matches expected **Red** = mismatch (expected value shown in gray)

A1. Timeline & Milestones

Variable	Value	Description
mvpDate	Feb 28, 2026	MVP target date
betaTenDate	Mar 10, 2026	First 10 beta clients
betaEndDate	May 2026	End of beta period
scaleMktDate	Jun 2026	Scale marketing date
kCustomersDate	Sep 2026	1,000 customers target
betaUsers	1,000	Beta user target

A1b. Beta & Referral Program Parameters

Variable	Value	Description
betaFirstClients	10	First beta milestone
betaEndClients	50	End of beta milestone
providerCommissionPercent	20.00%	Provider referral commission
referralProgramEndCustomers	20,000	Referral program threshold
providerMonthlyProfitMin	\$1	Provider profit (Basic tier)
providerMonthlyProfitMax	\$121	Provider profit (Golden tier)

A2. Computation Economics (Base Inputs)

Variable	Value	Description
computePowerWatts	350.00 W	Power consumption
electricityCostPerKwh	\$0.12	Electricity rate
weeklyRunsPerMonth	4.29	Runs per month

A3. Tier Configuration

Tier	Hours	Mix (%)	Markup
Basic	2.00	35.00%	2.50x
Medium	24.00	40.00%	3.00x
Professional	48.00	15.00%	3.50x
Golden	168.00	10.00%	5.00x

A4. Provider Economics (Derived — Validated)

Tier	Cost (\$/mo)	Gross (\$/mo)	Profit (\$/mo)
Basic	0.36	0.90	0.54
Medium	4.32	12.96	8.64
Professional	8.64	30.24	21.60
Golden	30.24	151.20	120.96

A5. Subscription Pricing (Derived — Validated)

Tier	Price (\$/mo)	Platform Rev (\$/mo)
Basic	1.25	0.35
Medium	18.00	5.04
Professional	42.00	11.76
Golden	210.00	58.80
Weighted Avg	34.94	9.78

Variable	Value	Description
markPlatformFeePercent	28.00%	Platform fee (take rate)
markWeightedAvgMonthly	9.78	Monthly platform rev/sub
markWeightedAvgAnnual	117.39	Annual platform rev/sub

A5b. Cost of Goods Sold - Components

COGS Component	Value	Basis
<i>Payment Processing (Derived from gross fee)</i>		
paymentProcessingFeeGross	2.90%	Fee charged on GMV
cogsPaymentProcessingPercent	10.36%	= 2.90% ÷ 28.00% take rate
<i>Operating COGS (Bottom-up estimates)</i>		
cogsInfraPercent	10.00%	Matching platform, hosting (8-15% benchmark)
cogsSupportPercent	8.00%	Dispute resolution, customer support
cogsTrustSafetyPercent	5.00%	Fraud prevention, security, compliance
totalCogsPercent	33.36%	Sum of all components
subGrossMargin	66.64%	= 100% – COGS%

Verification: $10.36 + 10.00 + 8.00 + 5.00 = 33.36\% \rightarrow \text{Gross Margin} = 66.64\%$

A5c. Cost of Goods Sold - Dollar Amounts (Derived — Validated)

COGS Component	Year 1	Year 2	Year 3
Total COGS	\$80,812	\$263,693	\$1,361,625
Gross Profit	\$161,451	\$526,821	\$2,720,334

A6. Customer Acquisition Cost (Derived — Validated)

Variable	Value	Description
cacDigitalWithoutFreeMerchan	\$20.00	Base digital CAC
cacContentWithoutFreeMerchan	\$18.00	Base content CAC
freeMerchanCacReductionPercent	20.00%	Gift reduction effect
freeMerchanCost	\$5.00	Gift cost per user
cacDigital	21.00	Effective digital CAC
cacContent	19.40	Effective content CAC
budgetDigital	\$60,000	Digital budget
budgetContent	\$25,000	Content budget

A7. Marketing Budgets & New Subscribers (Derived — Validated)

Variable	Year 1	Year 2	Year 3
marketingBudget	\$80,000	\$120,000	\$1,000,000
baseNewSubs	3,810	5,714	47,619
newSubs	3,810	5,714	47,619

A8. Customer Growth with Churn (Derived — Validated)

Variable	Year 1	Year 2	Year 3
churnRate	5.00%	4.50%	4.00%
retainedSubs	—	3,639	8,979
newSubs	3,810	5,714	47,619
totalSubs	3,810	9,353	56,598

Verification formula: $totalSubs Y2 = round(totalSubs Y1 \times (1 - churn Y2 / 100)) + newSubs Y2$

A9. Revenue Calculations (Derived — Validated)

Variable	Year 1	Year 2	Year 3
subARR (Exit)	\$447,256	\$1,097,949	\$6,644,039
actualSubRevenue	\$242,264	\$790,514	\$4,081,958
grossVolume (GMV)	\$865,227	\$2,823,264	\$14,578,423

Variable	Value	Description
avgRevenueMonthsYearOne	6.50	Avg months new subs contribute

A10. Operating Expenses (Derived — Validated)

Variable	Year 1	Year 2	Year 3
teamSalaries	\$240,000	\$600,000	\$1,200,000
infrastructure (non-COGS)	\$10,000	\$20,000	\$40,000
legalCompliance	\$20,000	\$30,000	\$40,000
marketing	\$80,000	\$120,000	\$1,000,000
totalOpex	\$270,000	\$650,000	\$1,280,000
totalOperatingCosts	\$350,000	\$770,000	\$2,280,000

A11. Profit & Loss Flow (Derived — Validated)

Line Item	Year 1	Year 2	Year 3
Net Revenue	\$242,264	\$790,514	\$4,081,958
– COGS	(\$80,812)	(\$263,693)	(\$1,361,625)
= Gross Profit	\$161,451	\$526,821	\$2,720,334
– OpEx (excl. mktg)	(\$270,000)	(\$650,000)	(\$1,280,000)
– Marketing	(\$80,000)	(\$120,000)	(\$1,000,000)
= Operating Income	\$–188,549	\$–243,179	\$440,334
monthlyBurn	\$35,901	\$86,141	\$303,469

A12. Unit Economics & LTV (Derived — Validated)

Variable	Value	Description
subGrossMargin	66.64%	Derived from COGS (100% – 33.36%)
avgAnnualChurnPercent	4.50%	Avg churn (as %)
theoreticalLifetimeYears	22.22	100/churn%
ltvCapYears	7.00	LTV cap
ltvYearsUsed	7.00	Actual years used
subAnnualGrossProfit	78.23	Annual GP/sub
subMonthlyGrossProfit	6.52	Monthly GP/sub
subLTV	547.62	Lifetime Value
subPaybackMonths	3.20 mo	Payback period
ltvCacRatio	26:1	LTV:CAC ratio

LTV calculation: \$117.39/yr × 66.64% margin × 7.00 years = \$547.62

A13. Breakeven Analysis (Derived — Validated)

Variable	Value	Description
monthlyFixedCostsYearTwo	\$64,167	Monthly OpEx + Marketing
subMonthlyGrossProfit	6.52	Contribution per sub
breakevenSubscribers	9,840	Rounded to 10s
monthlyGrowthYearTwo	461.92	Monthly sub growth Y2
breakevenMonth	Month 25	Target breakeven

$$\text{Breakeven} = \text{Fixed Costs} / \text{Gross Profit per Sub} = \$64,167 / \$6.52 = 9,840 \text{ subs}$$

A14. Funding & Runway (Derived — Validated)

Variable	Seed	Series A	Description
amount	\$600,000	\$2,000,000	Raise amount
equity	20.00%	25.00%	Equity sold
valuation	\$3,000,000	\$8,000,000	Post-money
runwayMonths	17.00 mo	23.00 mo	Runway

A15. Growth Rates & Valuation (Derived — Validated)

Variable	Value	Description
growthRateYearOneTwo	145.49%	Y1→Y2 ARR growth
growthRateYearTwoThree	505.13%	Y2→Y3 ARR growth
operatingMarginYearThree	10.79%	Y3 operating margin
ruleOfFortyScore	515.92	Growth + Op. Margin
arrMultiple	3.00x	Base ARR multiple
targetARRMultiple	2.50x	Conservative multiple
optimisticARRMultiple	4.00x	Optimistic multiple
targetValLow	\$17M	Target low
targetValHigh	\$20M	Target high
optimisticValLow	\$20M	Optimistic low
optimisticValHigh	\$27M	Optimistic high

$$\text{Rule of 40: } Y2 \rightarrow Y3 \text{ growth (505.00\%)} + Y3 \text{ operating margin (11.00\%)} = 516.00$$

A16. Market Sizing (TAM/SAM)

Variable	Value	Description
tamBitcoinUsers	3,000,000	Bitcoin user segment
tamPasswordMgrUsers	4,000,000	Password mgr segment
tamPhysicalVaultUsers	500,000	Physical vault segment
tamPrivateSecUsers	1,500,000	Private security segment
tamSubsGlobal	9,000,000	Total TAM
samPercentOfTam	15.00%	SAM as % of TAM
samSubs	1,350,000	SAM (users)
targetShareSubs	15.00%	Target market share
targetSubsCountk	202.00k	Target subscribers

A17. Merchandise (Reference Only)

Item	Price	Margin	Profit
T-shirt	\$25.00	50.00%	\$12.5
Hoodie	\$45.00	40.00%	\$18
Cap	\$20.00	45.00%	\$9
Mug	\$15.00	55.00%	\$8.25
Sticker	\$5.00	70.00%	\$3.5
Backpack	\$35.00	45.00%	\$15.75
Weighted Avg	\$28.00	48.00%	\$13.44

Note: Merchandise is excluded from financial projections; shown for reference only.

A18. Sensitivity Analysis (Derived — Validated)

All sensitivity scenarios use ±20.00% input variations.

Parameter	Value	Description
sensitivityDelta	20.00%	Variation tested

A18a. CAC Sensitivity

Variable	Low (-20%)	Base	High (+20%)
CAC	\$16.80	\$21.00	\$25.20
LTV:CAC	33:1	26:1	22:1
Payback	2.60 mo	3.20 mo	3.90 mo

A18b. Churn Sensitivity

Variable	Low (-20%)	Base	High (+20%)
Churn (%/yr)	3.60%	4.50%	5.40%
Theor. Lifetime	27.78 years	22.22 yrs	18.52 years
Capped Lifetime	7.00	7.00	7.00
LTV	\$547.62	\$547.62	\$547.62
LTV:CAC	26:1	26:1	26:1

Note: Churn sensitivity has no LTV impact due to 7.00-year cap. Theoretical lifetime exceeds cap in all scenarios.

A18c. Gross Margin Sensitivity

Variable	Low (-20%)	Base	High (+20%)
Gross Margin	53.31%	66.64%	79.97%
Annual GP/Sub	\$62.59	\$78.23	\$93.88
LTV	\$438.10	\$547.62	\$657.15
LTV:CAC	21:1	26:1	31:1
Payback	4.00 mo	3.20 mo	2.70 mo

A18d. Combined Scenarios

Variable	Stress Test	Base	Upside
<i>Input Assumptions</i>			
CAC	\$25.20 (+20%)	\$21.00	\$16.80 (-20%)
Churn	5.40% (+20%)	4.50%	3.60% (-20%)
Gross Margin	53.31% (-20%)	66.64%	79.97% (+20%)
<i>Derived Outputs (Validated)</i>			
LTV	\$438.10	\$547.62	\$657.15
LTV:CAC	17:1	26:1	39:1
Payback	4.80 mo	3.20 mo	2.10 mo

Stress test: all inputs move adversely. Upside: all inputs move favorably. Even under stress, LTV:CAC of 17:1 exceeds 3:1 threshold.

STATUS: ALL VALIDATIONS PASSED. All computed values match their expected hardcoded values.

Generated: January 21, 2026 — All values computed via `xfp` package at compile time.