

PRODUCT REQUIREMENTS DOCUMENT

Profit-First Ad Manager (PFAM)

Transform Ad Performance with True Profit Insights

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Executive Summary

Profit-First Ad Manager (PFAM) is a cloud-hosted SaaS platform that transforms how direct-to-consumer (D2C) e-commerce brands measure and optimize their advertising performance. Unlike traditional tools that focus on vanity metrics like ROAS (Return on Ad Spend), PFAM provides the industry's first profit-first approach to ad management—calculating true net profit by accounting for all costs: ad spend, COGS, returns, and platform fees.

The Problem

The digital advertising ecosystem is fundamentally broken for e-commerce brands. Ad platforms optimize for revenue and conversions, completely ignoring the costs that determine actual profitability. A campaign showing 3.5x ROAS might appear healthy, but after accounting for 45% COGS, 12% return rates, and 3% payment fees, the actual net profit margin could be under 5%—or even negative.

Industry research shows that 60-70% of D2C brands lack real-time per-campaign profitability visibility, and 15-25% of monthly ad spend goes to campaigns that are net-negative when fully loaded costs are considered.

The Solution

PFAM solves this by providing:

- **Real-time profit calculation: True net profit per campaign, ad set, and SKU using the formula: Revenue - Ad Spend - COGS - Estimated Returns - Platform Fees**

- **Multi-tiered attribution engine:** 5-tier attribution system from direct click ID matching to ML-predicted attribution
- **Automated profit-based actions:** Rules engine that automatically pauses unprofitable campaigns or scales winners based on profit thresholds
- **SKU-level returns modeling:** Historical return rates per product applied to profit calculations with retroactive updates
- **CEO-friendly dashboards:** Red/green profit signals, plain-language insights, mobile-first design for on-the-go monitoring

Market Opportunity

With 300,000+ Shopify stores spending over \$5K/month on ads, PFAM targets a \$1.08B TAM. Our serviceable addressable market (SAM) is \$540M focusing on English-speaking markets. A conservative 1% penetration by Year 3 represents \$5.4M ARR with 1,500 customers.

Unique Value Proposition

PFAM is the only SMB-accessible platform that:

- Executes automated API-level ad actions based on profit thresholds—not just insights
- Models SKU-level returns with retroactive profit adjustments
- Provides transparent profit calculations with confidence scores for every metric
- Offers 10-minute Shopify-first onboarding with zero engineering work required
- Starts at \$99/month with ad-spend-tiered pricing designed for growing brands

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1. Product Vision & Strategy

1.1 Vision Statement

To become the profit intelligence layer for every e-commerce brand, replacing revenue-centric ad optimization with profit-first decision making that actually grows sustainable businesses.

1.2 Mission Statement

PFAM empowers D2C founders and performance marketers to make confident advertising decisions by providing real-time, accurate profit visibility across all marketing channels—and taking automated action to protect profitability.

1.3 Design Principles

Principle	Rationale	When in Conflict
Clarity over Cleverness	A founder at 7am on their phone needs instant comprehension	Always choose the simpler pattern even if less aesthetically interesting
Accuracy over Completeness	A wrong number is worse than a missing one	Show confidence levels rather than filling gaps with estimates
Action over Insight	PFAM must help users do something, not just know something	Prioritize CTA placement over chart real estate
Profit as Primary Signal	Net profit is the dominant visual element on every screen	ROAS and revenue are context, never primary

1.4 Competitive Positioning

PFAM differentiates from competitors through three key advantages:

- 1. Automation Execution:** Unlike TripleWhale, Northbeam, and Lifetimely (analytics-only), PFAM executes actions via platform APIs
- 2. SMB Accessibility:** Starts at \$99/month vs \$1,000+/month for enterprise attribution tools, with 10-minute setup vs 3-6 months
- 3. Profit Accuracy:** Only platform with SKU-level returns modeling and retroactive profit adjustments

2. User Personas & Use Cases

2.1 Primary Personas

Persona 1: The Founder (Alex, 34)

Role	CEO/Founder of D2C brand spending \$50K/month on ads
Goals	Ensure every ad dollar is profitable; sleep knowing bad campaigns are paused automatically; understand true business health at a glance
Pain Points	Drowning in dashboards; spends Sunday evenings in Excel; afraid of wasting cash on underperforming campaigns; can't tell which ads actually make money
PFAM Features	Account overview dashboard, automation rules, daily email digest, mobile alerts

Persona 2: The Performance Marketer (Priya, 29)

Role	In-house media buyer managing Meta + Google Ads
Goals	Optimize campaigns quickly based on profit; justify budget decisions with data; get unified view across platforms
Pain Points	Can't get unified profit view across platforms; attribution gaps after iOS 14; ROAS doesn't tell true story; manual campaign management is time-consuming
PFAM Features	Campaign detail view, attribution inspector, multi-platform dashboards, automated rules

Persona 3: The Finance Manager (David, 41)

Role	Controller/Accountant at growing D2C brand
Goals	Reconcile ad spend with actual profit; export data for accounting system; ensure COGS accuracy
Pain Points	Ad metrics don't match P&L; can't link COGS to specific campaigns; manual data collection for month-end close
PFAM Features	CSV exports, COGS breakdown reports, reconciliation view, SKU profitability

2.2 Key Use Cases

UC-01: Onboarding & Platform Connection

Actor: Founder / Growth Engineer

Goal: Merchant successfully connects Shopify + Meta, views first profit dashboard within 10 minutes

Steps:

4. Merchant clicks 'Connect Shopify' and completes OAuth flow
5. PFAM imports last 90 days of orders, line items, COGS, and refunds
6. Merchant connects Meta Ads account via OAuth and selects ad accounts
7. PFAM imports last 90 days of campaign and spend data
8. Attribution engine runs initial matching pass
9. Dashboard populates with profit metrics. Onboarding confirmation email sent

UC-02: Profit Calculation & Dashboard Review

Actor: Founder / Performance Marketer

Goal: Review true net profit per campaign across all connected platforms

Steps:

10. User opens Campaign View and sees all campaigns ranked by net profit
11. Each row shows: Revenue, Ad Spend, COGS, Returns, Fees, Net Profit \$, Net Profit %, True ROAS
12. Color coding provides instant signals: green (profitable), amber (borderline), red (unprofitable)
13. User filters by platform, date range, product category, or attribution confidence
14. Clicking a campaign opens attribution inspector showing matched orders with confidence scores

UC-03: Automation Rule Creation

Actor: Founder / Performance Marketer

Goal: Create a rule to automatically pause unprofitable ad sets

Steps:

15. User navigates to 'Automation Rules' and clicks 'Create Rule'
16. Selects template: 'Pause if unprofitable over rolling window'
17. Configures: 7-day rolling window, threshold = net profit < \$0, platform = Meta Ads
18. Sets guardrails: minimum 15 attributed orders before rule can trigger
19. Sets notification channels: email + Slack on trigger
20. Activates rule. PFAM validates configuration and displays rule summary

3. Core Product Features

3.1 Platform Connectors

PFAM connects to commerce and advertising platforms via OAuth 2.0 to ingest all data required for profit calculation.

Shopify Connector (Phase 1)

- OAuth connection with scopes: read_orders, read_products, read_inventory, read_reports
- Historical data import: last 90 days (configurable up to 365 days on Enterprise)
- Real-time sync: new/updated orders ingested within 60 minutes
- Data ingested: orders, line items, COGS (from cost_per_item field), refunds, product metadata
- Multi-currency support: automatic conversion to organization base currency using daily FX rates
- Rate limit management: token bucket algorithm with exponential backoff

Meta Ads Connector (Phase 1)

- OAuth with scopes: ads_read, ads_management (for pause/budget actions)
- Support for multiple ad accounts per organization
- Data ingested: campaigns, ad sets, ads (IDs, names, status, objectives), daily insights (spend, impressions, clicks, conversions)
- Click-level data import for attribution via fbclid
- Attribution window mapping: Meta 7-day/1-day click windows to PFAM configurable window
- Rate limit handling: error code 17 detection with backoff queuing

Google Ads Connector (Phase 1)

- OAuth with scope: https://www.googleapis.com/auth/adwords
- Data ingested: campaigns, ad groups, ads, daily metrics (cost, impressions, clicks, conversions), conversion actions
- Google Click ID (gclid) mapping to Shopify order UTM parameters
- Manager Account (MCC) support for agency clients
- API quota management: 10,000 operations/day default with throttling

TikTok Ads Connector (Phase 2)

- OAuth connection for campaign, ad group, and ad data
- Spend, impressions, clicks, and purchase conversion events

- TikTok Click ID (ttclid) mapping via UTM parameters

3.2 Attribution Engine

The attribution engine is PFAM's core intellectual property—a 5-tier waterfall system that matches orders to campaigns with transparent confidence scoring.

Tier	Method	Description	Confidence
Tier 1	Direct Click Match	Match order to ad click using fbclid, gclid, or ttclid in Shopify UTM parameters	0.95 (95%)
Tier 2	Conversion ID Match	Match Shopify purchase event fired via Meta Pixel/Google Tag to campaign using conversion event metadata	0.85 (85%)
Tier 3	SKU-Weighted	Distribute revenue across campaigns proportionally to each campaign's share of spend on matching SKUs in attribution window	0.70 (70%)
Tier 4	Blended	Distribute unmatched revenue proportionally across all active campaigns by spend volume within attribution window	0.50 (50%)
Tier 5	ML-Predicted	Gradient boosting model trained on Tier 1/2 ground truth using features: order time, SKU category, customer geography, session path	0.60-0.85 (model-dependent)

Key Features:

- Configurable attribution window per organization (1, 7, 14, 30-day click window)
- Each attributed order tagged with tier, confidence score (0.0-1.0), and matched click ID
- Conflict resolution: platform priority ranking configurable by user

- Attribution inspector UI: per-order view showing decision path and contributing factors
- Unmatched orders clearly flagged with coverage rate metrics

3.3 Profit Calculation Engine

PFAM calculates true net profit per campaign, ad set, and ad using the comprehensive formula:

$$\text{Net Profit} = \text{Revenue} - \text{Ad Spend} - \text{COGS} - \text{Estimated Returns} - \text{Platform Fees}$$

Component Calculations

- **Attributed Revenue:** Sum of order line-item revenues for orders attributed to the campaign in the window
- **Ad Spend:** Actual spend ingested from ad platform API for the campaign/window
- **Attributed COGS:** Sum of ($\text{unit_cogs} \times \text{quantity}$) for all line items in attributed orders
- **Estimated Returns:** Sum of ($\text{order_revenue} \times \text{sku_return_rate}$) for all attributed orders using 180-day trailing return rate
- **Estimated Platform Fees:** Configurable percentage (default 2.9% + \$0.30 per transaction) applied to attributed revenue

Additional Metrics

- **Net Profit Margin:** Net Profit / Attributed Revenue × 100
- **True ROAS:** Attributed Revenue / Ad Spend (always shown for context)
- **Blended Metrics:** Account-level aggregation across all connected platforms

Technical Implementation

- All calculations stored as immutable snapshots at each sync cycle with version timestamp
- Historical recalculation triggered automatically when COGS or return rate data is updated
- Metrics available for: daily, 7-day rolling, 14-day rolling, 30-day rolling, custom date range
- All monetary values stored in cents (integer) to avoid floating-point precision issues

3.4 Automation Rules Engine

The automation engine allows users to define profit-based conditions that trigger automated actions on ad platforms—the key differentiator that sets PFAM apart from analytics-only competitors.

Rule Components

Component	Details
Platform	Meta Ads / Google Ads / TikTok Ads (Phase 2)
Scope	Account / Campaign / Ad Set (most common) / Ad
Conditions	Net profit (\$), Net profit margin (%), ROAS, Ad spend, Return cost, Return rate - with operators: <, >, ≤, ≥
Rolling Windows	Last 1, 3, 7, 14, or 30 days
Logic	AND / OR (max 5 conditions per rule)
Actions	Pause entity / Reduce budget by X% / Increase budget by X% / Alert only
Guardrails	Min orders (default: 10), Min spend (\$50), Max actions/day (10 per account)
Notifications	Email / Slack / Webhook / None

Key Features

- **Plain-English Rule Builder:** Sentence-like construction: 'IF [7-day net profit] is [less than] [\$0] AND [orders] are [more than] [15] THEN pause ad set'
- **Backtest Feature:** Preview rule behavior against last 30 days of historical data before activation
- **Explicit Activation:** New rules created in OFF/Draft state; must be explicitly enabled
- **Whitelisting:** Campaigns or ad sets can be excluded from all automation rules
- **One-Click Undo:** All automated actions reversible from UI, email, or Slack notification

Action Execution & Audit Trail

- Actions queued in persistent job queue (Kafka) before execution
- Executed via platform API with OAuth token; API response recorded
- Immutable audit log with: timestamp, actor, action type, entity, platform, rule ID, metric snapshot, API response
- Failed actions retried 3x with exponential backoff; persistent failures trigger admin alert
- Daily action digest email sent to Admin summarizing all automated actions

3.5 Returns & Refund Modeling

PFAM's returns modeling is a unique feature that dramatically improves profit accuracy by accounting for both expected and actual product returns at the SKU level.

Return Rate Calculation

- Ingest all Shopify refunds including partial refunds with line-item granularity
- Compute trailing 90-day and 180-day return rate per SKU: $\text{returns_rate} = \frac{\text{refunded_units}}{\text{sold_units}}$
- Apply return rate to attributed orders: $\text{expected_return_cost} = \text{order_revenue} \times \text{sku_return_rate}$
- Manual override capability: users can set custom return rates per SKU in Product Settings

Return Lag Adjustment

PFAM implements a sophisticated two-phase model:

- **Phase 1 (Orders < 45 days old):** Model expected returns as 'return reserve' (unrealized cost)
- **Phase 2 (Orders ≥ 45 days old):** Transition from expected to actual return figures
- **Retroactive Updates:** When actual refund is processed, retroactively update profit metric for the original campaign

Return Reason Classification

Returns are classified from Shopify refund notes into categories:

- Defective / Quality Issue
- Wrong Item Shipped
- Customer Changed Mind
- Sizing Issue
- Other

Note: Defective/Fulfillment returns are flagged separately and not attributed to ad campaign performance

3.6 Dashboards & Reports

Account Overview Dashboard

The morning dashboard designed for CEO-level 5-second comprehension:

- **KPI Row:** Total Net Profit, Ad Spend, Blended Margin %, Campaigns Paused Today (4 metric cards)
- **Platform Tiles:** One tile per connected platform (Meta, Google, TikTok) showing spend, revenue, net profit, status

- **Campaign Health Heatmap:** Visual grid of campaigns as colored tiles sized by spend (green=profitable, amber=borderline, red=loss)
- **Automation Activity Feed:** Timeline of last 10 automated actions with one-click undo
- **Sync Status Bar:** Last sync time per platform, manual sync trigger, stale data warnings

Campaign View

The performance marketer's control center with sortable profit table:

- View Controls: Platform filter, status filter, attribution confidence filter, saved views
- Summary Row: Aggregated totals across filtered campaigns
- Campaign Table: Sortable by net profit (default: worst first), expandable ad set breakdown
- Detail Panel: Slides in on row click showing profit breakdown chart, attribution inspector, 7/14/30-day trends

Product Profitability View

SKU-level profit analysis for finance teams:

- Product Table: Image thumbnail, SKU, category, units sold, revenue, COGS, return rate, net margin %
- COGS Source Badge: Indicates data source (Shopify/CSV/Estimate) with confidence color coding
- SKU Profit Trends Panel: 30-day margin % chart, return rate trend, top campaigns driving sales
- Missing COGS Filter: Toggle to show only SKUs requiring COGS configuration

Report Exports

Report Type	Format	Use Case	Generation Time
Campaign Profit Export	CSV	Finance reconciliation, month-end close	< 30 seconds
Account Summary Report	PDF	Board/investor reporting, client reports	< 60 seconds
Attribution Detail Export	CSV	Attribution audit, engineering debugging	< 60 seconds
Automation Activity Report	PDF	Compliance, brand safety review	< 30 seconds
COGS Reconciliation	CSV	Finance COGS audit, accounting reconciliation	< 30 seconds

6. Business Model & Pricing

6.1 Revenue Model

PFAM operates on a subscription SaaS model with tiered pricing based on monthly ad spend. This aligns PFAM's incentives with customer success—as brands scale their advertising, they move up tiers naturally.

6.2 Pricing Tiers

Plan	Price/Mo	Ad Spend	Users	Sync	Rules
Starter	\$99	Up to \$10K	1	Daily	3
Growth	\$299	\$10K-\$50K	3	Hourly	10
Pro	\$599	\$50K-\$150K	10	Hourly	50
Scale	\$1,299	\$150K-\$500K	25	Real-time	Unlimited
Enterprise	Custom	\$500K+	Unlimited	Real-time	Unlimited

Additional Notes

- **Annual Billing:** 15% discount when billed annually
- **Ad Spend Calculation:** Trailing 30-day sum of spend across all connected ad accounts
- **Auto-upgrade Prompt:** Shown when ad spend exceeds tier threshold for 3 consecutive days
- **Billing via Stripe:** Checkout for new subscriptions, Customer Portal for changes/cancellations
- **Agency Add-on:** +\$1,500/month for multi-client dashboard, supports up to 10 client accounts with client-level reporting

— *End of Document* —

For questions or feedback, contact: product@pfam.io