MCP SERVER | NO CODE | CLOUD HOSTED

Discount Order Optimizer MCP for AI Agents

Finding the Most Profitable Discount Combinations in E-commerce

The Discount Order Optimizer solves complex e-commerce math problems by determining the absolute best sequence of discounts. It tells you if applying a percentage reduction first or a fixed dollar amount saves more money overall. Use this MCP to structure promotions and maximize savings for your customers, ensuring you never accidentally miss the most profitable pricing combination.

A+ Quality Score 100/100

discounts | pricing-strategy | order-optimization | ecommerce-tools | mathematical-optimization

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vinkius.com/mcp/discount-order-optimizer

SCAN TO VIEW

The connectivity layer between AI and the world's software.

Vinkius sits between AI and every application. All communication passes through Vinkius Cloud via the Model Context Protocol (MCP) — with governance, observability, and security at every layer.

Your AI Connections Run Through Vinkius Cloud

The world's largest managed MCP catalog

Vinkius is the connectivity layer where AI connects to the software your business already runs. We handle the hosting, the security, the credentials, the uptime — you get agents that actually do things.

We operate the world's largest managed MCP catalog. Major SaaS platforms, CRMs, databases, and cloud providers — running, monitored, production-ready. This MCP server is hosted and maintained by the Vinkius Cloud for AI Agents.

> *The agent doesn't manage credentials, doesn't manage uptime, doesn't manage security. Vinkius does.*
>
> — Architecture principle

Four Pillars of the Vinkius Runtime

01 — Security by design

Credentials stay encrypted at rest via AES-256. The AI agent never touches raw keys — they're injected into a sandboxed V8 isolate at runtime. Actions are logged, and connections have an emergency kill switch.

02 — Built on MCP Fusion

This MCP server was built with **MCP Fusion**, the open-source framework (Apache 2.0) that powers the entire Vinkius catalog. Schema-as-firewall strips undeclared fields, compiled PII redaction runs at zero overhead, and cryptographic lockfiles produce git-diffable audit trails.

03 — Deterministic observability

Eight immutable metrics per endpoint: request volume, p95 latency, error rate, active connections, cost attribution. A live payload feed logs every tool call with mutation detection.

04 — Autonomous operations

Servers are deployed, monitored, and patched autonomously. New capabilities and security patches ship weekly. Zero-downtime deployments ensure continuous availability across all managed MCP servers.

AES-256	Ed25519	24h TTL	V8 Isolate
Encryption at rest	PKI vault signatures	Ephemeral session keys	Sandboxed execution

One Token. Instant Access.

Every MCP server on Vinkius is accessed through a **Connection Token**. Tokens are generated in the cloud dashboard and produce a unique MCP endpoint URL. Paste this URL into any MCP-compatible client — no SDK required.

A single token can serve **multiple AI clients simultaneously**, or you can issue separate tokens per client for granular access control. Each token tracks its own request count, last activity timestamp, and can be individually enabled or revoked.

MCP ENDPOINT

```
https://edge.vinkius.com/{token}/mcp
```

Claude · Cursor · VS Code · Windsurf · Grok · Gemini

Security Is the Architecture

Security in Vinkius is not a feature — it's the foundation of the runtime. The gateway enforces multiple independent protection layers between AI agents and third-party APIs.

01 — Ed25519 PKI Vault

Every workspace has an Ed25519 Master Key. Session keys are generated ephemerally (24h TTL) and signed by the Master Key. Credentials never leave the vault boundary.

02 — V8 Isolate Sandboxing

Tool code runs inside isolated-vm V8 isolates with 64 MB memory caps and per-request timeouts. No filesystem access, no network access except through the SSRF-guarded fetch bridge.

03 — SSRF Guard

All outbound HTTP requests are DNS-resolved and validated before execution. Private IP ranges (10.x, 172.16-31.x, 192.168.x, AWS metadata 169.254.x) are blocked at the network layer.

04 — DLP & PII Redaction

A ResponseGuard pipeline intercepts every tool response. Configurable redaction patterns strip sensitive fields (emails, SSNs, card numbers) before data reaches the AI agent.

05 — Cryptographic Audit Trail

Every request is signed into a SHA-256 hash chain with Ed25519 signatures. Events form a tamper-proof, SIEM-exportable forensic record.

06 — Honeytoken Trap System

Phantom credentials are injected into isolated environments. If a honeytoken is used outside Vinkius infrastructure, the server is quarantined instantly.

Emergency Kill Switch

EU AI Act Art. 14(1) Compliant

The kill switch is an **emergency halt** mechanism — not a simple toggle. When triggered, it executes three actions atomically:

01 — Server deactivated

The MCP server is immediately taken offline across the entire cluster.

02 — All tokens revoked

Every connection token is invalidated. Total lockout — reconnection blocked until new tokens are issued.

03 — WebSocket connections killed

Active connections terminated via Redis pubsub broadcast. Propagates to every runtime node in the cluster.

Full Visibility. Zero Guesswork.

The Vinkius cloud dashboard includes a full MCP Governance suite — real-time analytics and security controls for production AI operations.

Control Plane

KPI dashboard with request volume, latency, success rate, token consumption, and AI-generated operational briefings.

Agent Activity

Which AI clients are connecting, how often, and what they're doing — real-time session tracking.

FinOps

Cost tracking per tool, payload compression savings, budget optimization signals, and consumption trends.

Tool Health

Slowest and most error-prone tools, with actionable root-cause insights and performance baselines.

Firewall & DLP

PII redaction activity, sensitive data protection counters, and security event timeline.

Incident Log

Error trends, failure rates, status-code breakdowns, and forensic audit trail access.

> Get started at **cloud.vinkius.com** — connect your AI agent in under 60 seconds.

Discount Order Optimizer MCP

3 tools available
Cloud-hosted on Vinkius

When running an online store, knowing how to stack multiple discounts is critical. A simple calculation mistake—like applying shipping adjustments before a minimum spend discount—can cost you thousands in lost revenue. This MCP handles that complexity. Instead of guessing, it runs every possible order of your promotions—whether they're fixed amounts, percentages off, or tiered reductions. It checks rules like required minimum spending at each step to find the mathematically optimal path. You connect this through Vinkius and let your AI client figure out exactly how to structure deals that genuinely maximize savings for customers while protecting your profit margins.

It takes the guesswork out of pricing strategy, giving you concrete proof of the best discount stack available.

Core Capabilities

01 — Determine optimal discount order

Finds the single best sequence to apply multiple discounts for the lowest final price.

02 — Check discount impact

Calculates the total financial effect of applying a specific, defined order of discounts.

03 — Validate eligibility rules

Verifies whether an individual discount meets all required conditions for a given purchase total.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/mcp/discount-order-optimizer** — connect your AI agent in three steps.

01 You provide the MCP with your initial order total and a list of potential discounts (e.g., 15% off, $20 fixed coupon).

02 The tool runs an exhaustive permutation algorithm, testing every possible combination and checking if each discount meets its specific minimum spending rules.

03 It returns the absolute best sequence, showing step-by-step how the final price is calculated to achieve maximum savings.

The bottom line is, it gives you the mathematical certainty of your pricing strategy.

Built For

This MCP serves e-commerce operations teams and marketing managers who spend too much time manually calculating discount stacks. If your team ever has to argue over whether 'Coupon A' or 'Percent B' should be applied first, you need this tool.

E-commerce Merchandiser

Uses the MCP to design promotional bundles that hit specific revenue targets by optimizing discount sequencing.

Pricing Analyst

Determines if a proposed sale structure meets profitability goals by calculating the precise impact of different discount orders.

Marketing Operations Specialist

Tests various coupon codes and sales campaigns to guarantee the highest perceived value for the customer while minimizing internal cost exposure.

What Changes When You Connect

01 Stop guessing on pricing. Use find_optimal_discount_sequence to guarantee you always use the discount stack that yields the absolute lowest final price.

02 Test promotions without risking sales. Before launching a sale, run the numbers through calculate_sequence_impact to see exactly how different orders of discounts affect the total cost.

03 Instantly check rules compliance. validate_discount_eligibility tells you right away if a coupon is viable for a specific customer or order total.

04 Speed up merchandising. Your agent can now automatically test hundreds of discount permutations in seconds, saving days of manual spreadsheet work.

05 Boost profitability. By knowing the true impact of every promotion sequence, you stop over-discounting and protect your margins.

Real-World Applications

Designing a 'Buy Two Get X%' Sale

A merchandiser needs to know if applying a fixed $10 coupon before or after the 20% bulk discount changes the final price. The agent runs calculate_sequence_impact to show that the specific order saves an additional $7, allowing them to structure a better promotion.

Validating Holiday Coupon Stacks

A marketing specialist has three codes (10% off, $25 coupon, Free Shipping). The agent uses find_optimal_discount_sequence to figure out the single best order for these three codes, ensuring maximum perceived customer value.

Checking Coupon Rules Before Launch

A new campaign requires a minimum spend of $50. Instead of running test orders, the agent uses validate_discount_eligibility to confirm instantly if a 15% discount is applicable for an order currently sitting at $49.

Optimizing Seasonal Sales

The pricing analyst needs to know which combination of tiered discounts (e.g., first tier gets X%, second tier gets Y%) results in the lowest total cost, using find_optimal_discount_sequence for a complex product bundle.

Patterns to Avoid

Assuming discount order doesn't matter

✗ AVOID

A team member runs an analysis assuming that applying 10% off then $5 fixed is the same as $5 fixed then 10% off. They miss out on savings because they didn't test all permutations.

✓ INSTEAD

Use find_optimal_discount_sequence to force your agent to evaluate every possible sequence, guaranteeing you identify the true minimum price for your customers.

Ignoring spending thresholds

✗ AVOID

A marketing campaign plans a 20% discount but fails to account for the $100 minimum spend requirement. The system calculates an unrealistically low final price.

✓ INSTEAD

Before finalizing any promotion, use validate_discount_eligibility. It checks eligibility rules first, preventing you from advertising discounts that aren't actually available.

Relying on simple addition

✗ AVOID

Calculating total savings by just adding up the percentage and fixed amounts (e.g., 10% + $5 off). This ignores how the fixed amount changes the base for the percentage calculation.

✓ INSTEAD

Run calculate_sequence_impact. It simulates the real flow of money, showing you exactly what the final total will be after each discount is applied.

The Right Fit

Use this MCP if your pricing depends on complex math where the order matters. If your goal is to find the absolute lowest price from a mix of percentages, fixed coupons, and tiered offers, you need it. Don't use it if you only have one simple coupon code; standard database lookups suffice. Crucially, don't use this MCP if you just need to calculate tax or shipping fees, as those are separate functions. This tool is purely about optimizing the *stacking* of promotional discounts.

Discount Order Optimizer: Solving Complex E-commerce Promotion Math

Today, setting up a promotion means manually checking discount stacks across multiple tabs. You copy an order total, paste it into a spreadsheet, and then spend time rearranging coupon codes to see if the final price changes. This process is slow, highly error-prone, and often misses the single most profitable combination.

With this MCP, you simply feed your agent the order total and all potential discounts. It runs the exhaustive math instantly, returning the definitive optimal sequence that maximizes savings for the customer while helping you control spend. You get actionable pricing intelligence without leaving your workflow.

Discount Order Optimizer: Ensuring Accurate Promotional Revenue Modeling

Manual modeling forces teams to make assumptions about discount priority, often leading to revenue leakage or offering promotions that don't meet minimum spend thresholds. You waste time testing scenarios that are mathematically impossible.

This tool eliminates those guesswork steps. It provides a reliable mechanism for simulating the entire sales funnel, giving you mathematical certainty over your promotional outcomes and solidifying your pricing strategy.

Discount Order Optimizer: 3 Tools for E-commerce Discount Math

These tools allow you to find the best order of discounts, check eligibility rules, or calculate the impact of a specific discount sequence on an order total.

#	TOOL	DESCRIPTION
01	`calculate_sequence_impact`	Calculates the final price change when applying a specific, ordered set of discounts to an order total.
02	`find_optimal_discount_sequence`	Identifies and returns the mathematically best sequence for applying multiple available discounts.
03	`validate_discount_eligibility`	Checks if a single discount code or promotion applies to an order, given current spending rules.

See It in Action

Real prompts you can use once this MCP is connected to your AI agent through Vinkius Cloud.

U What's the best order of discounts for $120? I have 25% off and a $30 coupon.

Here is the optimal sequence, saving you more money overall.

Optimal Stack: Apply the **$30 Coupon first**, then take **25% off** the remaining balance.

- **Step 1 (Coupon):** $120 - $30 = $90.00

Step 2 (Discount): *$90.00* 0.75 = $67.50

This sequence results in a final price of **$67.50**, saving you more than if we applied the percentage first.

U I have three discounts: $15 off, 20% off, and free shipping on $40 total.

Final Optimal Price: $38.00

The best sequence is to apply the **$15 discount first**, then take **20% off** the remaining balance, with shipping waived.

- Starting Total: $40.00
- After $15 Discount: $25.00

Final Price (minus 20%): $25.00 0.8 = **$20.00** (Wait, I made a mistake in the calculation above.)

Let's re-run it for accuracy: The optimal sequence is applying the 20% off first, then $15 coupon, resulting in $32.00 final price.

U Is a 15% discount valid if the minimum spend required is $45 but my cart is currently at $38?

No, that discount isn't applicable right now.

The system checked the rules and confirmed that while the 15% off coupon exists, it requires a running total of at least $45 to activate. Since your current total is only $38, you need to add another $7 worth of items before the discount can be used.

Frequently Asked Questions

01 **How does the Discount Order Optimizer find the best combination of discounts?**

It uses a comprehensive algorithm that tests every single possible order and combination of your available promotions. It doesn't guess; it calculates which sequence results in the lowest final price for the customer.

02 **Can I use this MCP to optimize my e-commerce pricing strategy?**

Yes, that's exactly what it does. You can feed it your various sales rules—percentages, fixed amounts, shipping tiers—and it tells you the mathematically best way to stack them for maximum savings.

03 **Does Discount Order Optimizer check if my coupons are actually valid?**

Yes, before finding an optimal sequence, it verifies eligibility. It checks rules like minimum spend thresholds and product restrictions so you never promote a discount that won't actually apply.

04 **What kind of discounts can I input into the Discount Order Optimizer?**

You can use percentages (e.g., 10% off), fixed dollar amounts ($5 coupon), and complex tiered rules, like minimum spend requirements for a discount to activate.

05 **Is this better than just running calculations in Excel?**

Absolutely. Excel struggles with checking every possible combination of discounts and is easily limited by spending thresholds. This MCP handles the complexity instantly and gives you a definitive answer on profitability.

Go Live in 60 Seconds

Get your connection token from **cloud.vinkius.com**, then paste the endpoint URL into any MCP-compatible client.

YOUR MCP ENDPOINT

```
https://edge.vinkius.com/[TOKEN]/mcp
```

CLIENT	WHERE TO CONFIGURE
Claude AI	Profile → Customize → Connectors → "+" → Add custom connector → Paste endpoint
Cursor	Settings → Features → MCP Servers → "+ Add New MCP Server" → Type: SSE → Paste endpoint
VS Code	Ctrl/Cmd+Shift+P → "MCP: Add Server" → add `"discount-order-optimizer": { "url": "…" }`
Windsurf	MCP Settings → `mcp_settings.json` → Add endpoint URL
ChatGPT	Settings → Tools & plugins → Add MCP server → Paste endpoint
Gemini	Extensions → Add MCP Server → Paste endpoint URL

ASK AN AI ABOUT THIS

Let your preferred AI explain this MCP server

- Ask ChatGPT
- Ask Claude
- Ask Perplexity
- Ask Gemini
- Ask Grok

READY TO CONNECT

Discount Order Optimizer is live on Vinkius Cloud.

Get your connection token, paste it into your AI agent, and start building. No SDK. No deployment. Just results.

Start at cloud.vinkius.com →

vinkius.com · support@vinkius.com

INDEPENDENT PLATFORM DISCLAIMER

DOCUMENT INFORMATION

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MCP Server	Discount Order Optimizer MCP
Server ID	`019f2376-4aba-7163-897f-cea2d5afd4fb`
Platform	Vinkius Cloud for AI Agents
Endpoint	`https://edge.vinkius.com/{token}/mcp`

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