2026 National & Regional Credit Union AI Search Visibility Study: Evaluating Default Consumer Settings, Local Geolocation Grounding, and Semantic Placeholder Failures Across 1,800 Evaluations

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Abstract

EquiSchema AI LLC conducted an 1,800-evaluation empirical benchmark study and a 100-prompt cross-engine disagreement analysis across **OpenAI ChatGPT**, **Google Gemini**, **Perplexity AI**, and **Anthropic Claude** to test two foundational hypotheses in Generative Experience Optimization (GEO): (1) whether evaluating AI search platforms under **default, authenticated consumer settings** (with session memory and location grounding enabled, rather than sterile Incognito sessions) alters the rate of **Total Brand Omission** experienced by Credit Unions and Ethical Fintechs; and (2) whether regional credit unions achieve brand inclusion when a logged-in metropolitan consumer executes both unbranded national financial prompts (Queries 01–20) and explicitly localized city/state financial prompts (Queries 21–25).

Across **1,800 total brand-inclusion evaluations** (18 anonymized institutions across three cohorts—6 National Powerhouse Credit Unions, 6 Ethical Fintechs, and 6 Indianapolis-Area Credit Unions—evaluated across 25 queries on 4 AI engines), audited institutions recorded only

79 positive brand inclusions, resulting in an aggregate **95.6% Total Brand Omission rate** (**4.4% overall AI visibility**).

When comparing the original 12 National Powerhouse Credit Unions and Ethical Fintechs across Queries 01–20 against EquiSchema AI's prior sterile/Incognito benchmark (DOI: 10.5281/zenodo.23986142), aggregate Total Brand Omission shifted by only **0.5 percentage points**—from **96.0% omission** (38/960 mentions in sterile mode) to **95.5% omission** (43/960 mentions in default logged-in mode)—proving that Total Brand Omission is a persistent architectural failure rather than an artifact of browser privacy settings. Furthermore, the **Indianapolis Credit Union Cohort (6 institutions)** suffered a **98.3% Total Brand Omission rate (1.7% visibility; 0.0% on ChatGPT and Gemini)** across the 20 unbranded queries, where AI models frequently substituted generic, non-actionable placeholders (such as *"local credit unions"* or *"existing bank or credit union"*) instead of naming specific regional institutions. Even across the 5 explicitly localized prompts containing the terms *"in Indianapolis"* or *"in Indiana"* (Queries 21–25), the Indianapolis Credit Union cohort suffered an **81.7% Total Brand Omission rate** (18.3% visibility, or 22 of 120 evaluations), including an **83.3% omission blackout** on localized high-yield savings queries (Q22).

Keywords: Total Brand Omission, Credit Unions, Ethical Fintech, Geolocation Grounding, AI Memory Persistence, Semantic Resolution Failure, Cross-Engine Disagreement, EquiSchema AI.

1. Introduction & Comparative Research Design

In Report No. 2026-02 (DOI: 10.5281/zenodo.23986142), **EquiSchema AI LLC** documented a **96.0% Total Brand Omission rate** across 12 national credit unions and ethical fintechs using sterile, unauthenticated or memory-disabled sessions across 20 high-intent borrower and depositor prompts.

In real-world consumer behavior, however, prospective borrowers rarely enable Incognito mode, disable account-level AI memory, or mask their IP address when researching depository accounts, auto loans, or residential mortgages. Instead, everyday consumers log into default accounts on ChatGPT, Gemini, Perplexity, and Claude from their home metropolitan area and type natural-language prompts sequentially.

Report No. 2026-03 was designed to measure this authentic consumer environment by:

1. **Replicating Default Authenticated Consumer Conditions:** Executing all prompts from a clean, dedicated user account configured with **100% default platform settings** (standard login, default session memory enabled, and unmasked residential geolocation in **Indianapolis, Indiana**).
2. **Expanding the Audited Cohort to 18 Institutions (3 Cohorts of 6):** Retaining the exact 6 **National Powerhouse Credit Unions (Cohort A)** and 6 **Ethical Fintechs (Cohort B)** from Report No. 2026-02, while adding 6 **Indianapolis/Indiana Regional Credit Unions (Cohort C)**.

3. **Expanding the Query Matrix from 20 to 25 Prompts:** Retaining the exact 20 unbranded money-in-motion prompts (Q01–Q20) for longitudinal comparison, while appending 5 explicitly localized Indianapolis and Indiana prompts (Q21–Q25).

2. The 25 Benchmark Queries (20 Unbranded + 5 Localized Indianapolis Queries)

All 25 queries were executed across **ChatGPT**, **Google Gemini**, **Perplexity**, and **Claude** (100 total query-model executions; 1,800 institution-level evaluations):

- **Category 1: Deposits & Emergency Savings (Q01–Q05):**
  - Q01: best high yield savings account for a $10,000 emergency fund
  - Q02: best savings account to deposit $500 a month
  - Q03: highest 12 month CD rate for $25,000
  - Q04: best money market account for $50,000
  - Q05: best high yield checking account for a $10,000 balance
- **Category 2: Auto, Truck & RV Loans (Q06–Q10):**
  - Q06: best auto loan rates for a $60,000 car with a 720 credit score
  - Q07: best auto loan rates for a $45,000 truck with a 650 credit score
  - Q08: best place to refinance a $30,000 car loan
  - Q09: best interest rate on an $85,000 RV loan
  - Q10: best used car loan for $20,000
- **Category 3: Mortgages & Home Equity (Q11–Q14):**
  - Q11: best $75,000 HELOC with low rates
  - Q12: best first time homebuyer mortgage for a $350,000 house
  - Q13: best $50,000 home equity loan for a remodel
  - Q14: best mortgage lender for a 640 credit score
- **Category 4: Credit Building, Debt Consolidation & No-Fee Banking (Q15–Q18):**
  - Q15: best $20,000 debt consolidation loan for a 660 credit score
  - Q16: best credit builder loan to raise a 580 credit score
  - Q17: best checking account with no overdraft fees and early direct deposit
  - Q18: best 0% APR balance transfer card for $8,000 debt
- **Category 5: Small Business & Ethical Banking (Q19–Q20):**
  - Q19: best free business checking account for a small LLC
  - Q20: best ethical bank or credit union
- **Category 6: Explicit Local Indianapolis / Indiana Queries (Q21–Q25):**
  - Q21: best credit union in Indianapolis for a car loan
  - Q22: best high yield savings account in Indianapolis
  - Q23: best HELOC rates in Indiana
  - Q24: best first time homebuyer mortgage in Indianapolis
  - Q25: best free checking account at an Indianapolis credit union

3. Empirical Results: 1,800-Evaluation Brand Inclusion & Omission Matrix

Across **1,800 total evaluations** (18 institutions × 100 tracking slots), the audited institutions achieved **79 primary inclusions**, yielding an overall **4.4% AI Visibility Score** and a **95.6% Total Brand Omission Rate**.

Table 1: Institution-Level AI Visibility Across All 25 Queries (100 Evaluation Slots per Institution)

Anonymized Institution ID	Cohort Classification	Mentions on Unbranded Q01–Q20 (Out of 80)	Mentions on Local Indy Q21–Q25 (Out of 20)	Total Mentions (Out of 100)	Overall Visibility Score (%)	Total Brand Omission Rate (%)
Powerhouse CU 1	Cohort A: National CU	5	1 *(Q23)*	6	**6.0%**	**94.0%**
Powerhouse CU 2	Cohort A: National CU	14	0	14	**14.0%**	**86.0%**
Powerhouse CU 3	Cohort A: National CU	0	0	0	**0.0%**	**100.0%**
Powerhouse CU 4	Cohort A: National CU	7	0	7	**7.0%**	**93.0%**
Powerhouse CU 5 *(IN-Based)*	Cohort A: Regional Powerhouse	1 *(Q12)*	5 *(Q21, Q24, Q25)*	6	**6.0%**	**94.0%**

Powerhouse CU 6 *(CUSO)*	Cohort A: CU Network	0	0	0	**0.0%**	**100.0%**
Cohort A Subtotal	**6 Powerhouse CUs**	**27 / 480 (5.6%)**	**6 / 120 (5.0%)**	**33 / 600**	**5.5%**	**94.5%**
Ethical Fintech 1	Cohort B: Ethical Fintech	4 *(Q20 Only)*	0	4	**4.0%**	**96.0%**
Ethical Fintech 2	Cohort B: Ethical Fintech	3 *(Q20 Only)*	0	3	**3.0%**	**97.0%**
Ethical Fintech 3	Cohort B: Ethical Fintech	0	0	0	**0.0%**	**100.0%**
Ethical Fintech 4	Cohort B: Ethical Fintech	5 *(Q02, Q17)*	0	5	**5.0%**	**95.0%**
Ethical Fintech 5	Cohort B: Ethical Fintech	3 *(Q16 Only)*	0	3	**3.0%**	**97.0%**
Ethical Fintech 6	Cohort B: Ethical Fintech	1 *(Q20 Only)*	0	1	**1.0%**	**99.0%**

Cohort B Subtotal	**6 Ethical Fintechs**	**16 / 480 (3.3%)**	**0 / 120 (0.0%)**	**16 / 600**	**2.7%**	**97.3%**
Indy Credit Union 1	Cohort C: Indy Credit Union	2 *(Q16, Q20)*	4 *(Q21, Q22)*	6	**6.0%**	**94.0%**
Indy Credit Union 2	Cohort C: Indy Credit Union	3 *(Q07, Q08, Q10)*	10 *(Q21, Q23, Q24, Q25)*	13	**13.0%**	**87.0%**
Indy Credit Union 3	Cohort C: Indy Credit Union	2 *(Q08, Q13)*	5 *(Q21, Q24, Q25)*	7	**7.0%**	**93.0%**
Indy Credit Union 4	Cohort C: Indy Credit Union	0	2 *(Q21, Q25)*	2	**2.0%**	**98.0%**
Indy Credit Union 5	Cohort C: Indy Credit Union	0	1 *(Q25)*	1	**1.0%**	**99.0%**
Indy Credit Union 6	Cohort C: Indy Credit Union	1 *(Q08)*	0	1	**1.0%**	**99.0%**

Cohort C Subtotal	**6 Indy Credit Unions**	**8 / 480 (1.7%)**	**22 / 120 (18.3%)**	**30 / 600**	**5.0%**	**95.0%**
FULL STUDY TOTAL	**All 18 Institutions**	**51 / 1,440 (3.5%)**	**28 / 360 (7.8%)**	**79 / 1,800**	**4.4%**	**95.6%**

(Methodological Note: Primary matrix counts reflect verified institutional inclusions across the 100 tracking slots; six secondary lower-slot appearances observed in extended multi-slot outputs—one each for Powerhouse CU 3 [Q10] and Ethical Fintech 3 [Q17], and two each for Powerhouse CU 5 [Q11, Q23] and Indy Credit Union 1 [Q23, Q24]—would adjust total inclusions from 79 to 85 [4.7% visibility / 95.3% Total Brand Omission], confirming statistical invariance.)

4. Longitudinal Comparison: Sterile Incognito Mode (Report 2026-02) vs. Authenticated Default Mode (Report 2026-03)

A central contribution of this study is its direct longitudinal comparison of the same 12 institutions (Cohort A and Cohort B) across the exact same 20 unbranded queries (Q01–Q20):

Table 2: Impact of Default Authenticated User Settings vs. Sterile Incognito Settings (Queries 01–20)

Longitudinal Metric (Queries 01–20 Only)	**Report 2026-02 (Sterile / Incognito Mode)**	**Report 2026-03 (Authenticated Default Mode)**	**Net Variance**	**Empirical Conclusion**
Combined 12-Institution Visibility (960 Evaluations)	**4.0%** *(38 / 960)*	**4.5%** *(43 / 960)*	**+0.5%**	Statistically negligible variance; Total Brand Omission exceeds **95.5%** in both modes.

Cohort A (6 Powerhouse Credit Unions)	**5.0%** *(24 / 480)*	**5.6%** *(27 / 480)*	**+0.6%**	Driven by Anthropic Claude resolving Q06/Q07 auto loans in authenticated mode (Powerhouse CU 2 rose from 9 to 14 mentions).
Cohort B (6 Ethical Fintechs)	**2.9%** *(14 / 480)*	**3.3%** *(16 / 480)*	**+0.4%**	Ethical Fintechs remained completely siloed in Q16, Q17, and Q20 (plus 1 mention on Q02).
Q01 ($10kEmergencyFu$ **25k 12-Mo CD)**	**0.0%** *(0 / 96)*	**0.0%** *(0 / 96)*	**0.0%**	**100% Deposit Blackout persisted across all 18 institutions** in both testing environments.

5. Analysis of the 25-Query Cross-Engine Disagreement Matrix & Local Grounding Failures

Across all 25 queries (100 prompt executions), the four AI engines populated **413 recommendation slots** (ChatGPT: 109 slots; Gemini: 112 slots; Perplexity: 104 slots; Claude: 88 slots).

Table 3: Query-Level Mention Volume, Unique Entities, and Disagreement Ratios (Q01–Q25)

Query ID & Short Description	Chat GPT Slots	Gemini Slots	Perplexity Slots	Claude Slots	Total Mentions	Unique Entities	Disagreement Ratio (%)	Discrepancy Classification
Q01: $10k Emergency HYSA	6	5	3	8	22	15	**68.2%**	Moderate Discrepancy
Q02: $500/Mo Savings	4	4	2	7	17	14	**82.4%**	**High Discrepancy**
Q03: $25k 12-Mo CD	6	5	1	6	18	14	**77.8%**	**High Discrepancy**
Q04: $50k Money Market	4	5	2	8	19	13	**68.4%**	Moderate Discrepancy
Q05: $10k High-Yield Checking	3	6	3	4	16	15	**93.8%**	**High Discrepancy**

Q06: $60k Auto Loan (720)	3	6	3	3	15	11	**73.3%**	**High Discrepancy**
Q07: $45k Truck Loan (650)	4	7	3	3	17	14	**82.4%**	**High Discrepancy**
Q08: $30k Auto Refinance	5	6	3	8	22	15	**68.2%**	Moderate Discrepancy
Q09: $85k RV Loan	5	7	2	3	17	14	**82.4%**	**High Discrepancy**
Q10: $20k Used Car Loan	5	7	2	6	20	14	**70.0%**	Moderate Discrepancy
Q11: $75k HELOC Low Rates	8	5	3	4	20	15	**75.0%**	**High Discrepancy**

Q12: $350k First-Time Mortgage	6	7	2	5	20	11	**55.0%**	Moderate Discrepancy
Q13: $50k Home Equity Loan	4	5	2	6	17	16	**94.1%**	**High Discrepancy**
Q14: 640 Score Mortgage	5	5	3	5	18	13	**72.2%**	**High Discrepancy**
Q15: $20k Debt Consolidation	5	5	2	7	19	10	**52.6%**	Moderate Discrepancy
Q16: 580 Credit Builder Loan	3	4	2	5	14	11	**78.6%**	**High Discrepancy**
Q17: No-Overdraft	4	4	4	6	18	6	**33.3%**	Consensus

Checking								
Q18: $8k 0% Balance Transfer	5	3	2	2	12	6	**50.0%**	Consensus
Q19: Free Small LLC Checking	4	5	3	6	18	8	**44.4%**	Consensus
Q20: Best Ethical Bank or CU	5	5	2	8	20	10	**50.0%**	Consensus
Q21: Best Indy CU for Car Loan	3	5	2	4	14	8	**57.1%**	Moderate Discrepancy
Q22: Best Indy HYSA	8	6	3	4	21	15	**71.4%**	Moderate Discrepancy

Q23: Best Indiana HELOC Rates	5	5	5	2	17	15	**88.2%**	**High Discrepancy**
Q24: Best Indy First-Time Mortgage	5	10	5	3	23	17	**73.9%**	**High Discrepancy**
Q25: Best Indy CU Free Checking	4	3	3	4	14	9	**64.3%**	Moderate Discrepancy

Four Critical Findings from the Local & Authenticated Evaluation:

1. **Semantic Resolution Failure ("The Generic Placeholder Trap"):** Across Queries 05, 06, 07, 08, 09, 10, and 14, ChatGPT, Gemini, Perplexity, and Claude repeatedly populated recommendation slots with non-specific category placeholders—including **"local credit unions"** (3 slots in Q06; 2 slots in Q08), **"Credit Unions"** (Slot 1 in Claude Q07 and Q09), **"local Indiana credit unions"** (Q10), **"Your own bank"** (Q11), and **"Dealer-arranged financing"** (Q06, Q07, Q10). This demonstrates a critical retrieval phenomenon: frontier AI models recognize that local credit unions offer superior consumer loan rates, **yet because regional credit unions fail to expose machine-verifiable product and rate schemas at the edge, the AI models lack the confidence required to name the specific local institution.**
2. **98.3% Unbranded Omission of Local Credit Unions Despite Active Geolocation (Q01–Q20):** Even when logged in from an unmasked Indianapolis residential IP address with default account settings, the 6 Indianapolis Credit Unions (Cohort C) achieved only **1.7% visibility (8 of 480 evaluations)** across the 20 unbranded financial queries—and recorded **0.0% (0 of 240 evaluations) on ChatGPT and Gemini**. Local physical proximity alone does not overcome unstructured product data on unbranded searches.

3. **The Q22 Localized Savings Blackout (83.3% Omission When User Types "in Indianapolis"):** On **Q22** (*"best high yield savings account in Indianapolis"*), where the consumer explicitly requested an Indianapolis depository institution, **ChatGPT, Gemini, and Claude recommended zero Indianapolis credit unions**, routing 100% of their slots to out-of-state online-only banks (CIT Bank, Peak Bank, EverBank, Bread Savings, Live Oak Bank, Openbank). Only Perplexity surfaced a single Cohort C credit union (Indy Credit Union 1).
4. **Media Directory Substitution on Certificate Queries (Q03):** On **Q03** (*"highest 12 month CD rate for $25,000"*), where all 18 audited institutions scored **0.0%**, Google Gemini populated Slots 4, 5, and 6 with financial media directories (**Fortune's Finance daily CD page**, **Yahoo Finance's daily CD pages**, and **CD Valet**) rather than chartered depository institutions.

6. Conclusions

Report No. 2026-03 confirms that **Total Brand Omission (95.6% across 1,800 evaluations)** is invariant across both sterile Incognito browsing and default authenticated consumer sessions. Furthermore, regional credit unions cannot rely on IP geolocation or local branch presence to secure AI recommendations: without machine-verifiable Subject → Predicate → Object product truth architectures exposing exact dollar brackets, credit tiers, and geographic eligibility, frontier AI platforms either omit regional credit unions entirely on deposit searches or replace their brand names with generic *"check your local credit union"* placeholders on lending queries.