

# Zero-Click Law:

## Empirical Laws of AI-Mediated Discovery

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### Abstract

*This paper introduces the Zero-Click Laws, a set of ten empirically testable propositions describing behavioral patterns in AI-mediated digital discovery. As artificial intelligence platforms increasingly resolve user queries without requiring navigation to external websites, traditional metrics of digital visibility have become inadequate. The Zero-Click Laws provide a systematic framework for detecting, measuring, and classifying the displacement of organic traffic caused by AI answer engines, featured snippets, and generative search interfaces. Each law follows a rigorous If/Then/Measured by structure with specific quantitative thresholds, enabling reproducible analysis across industries and platforms. This framework establishes foundational metrics including the CTR Compression Ratio (CCR), Displacement Index (DI), and Total Interaction Equity (TIE), which together enable organizations to diagnose visibility erosion before revenue impacts become apparent. The laws are descriptive rather than prescriptive; they document observed phenomena without mandating specific optimization strategies.*

**Keywords:** zero-click search, AI-mediated discovery, generative engine optimization, search engine optimization, digital visibility metrics, click-through rate compression, traffic displacement

# 1. Introduction

The digital discovery landscape has undergone a fundamental transformation. Research from SparkToro indicates that nearly 65% of all Google searches now end without a click to an external website (Fishkin, 2024). Simultaneously, AI platforms such as ChatGPT serve over 100 million weekly active users who increasingly resolve informational queries through conversational interfaces rather than traditional search navigation (OpenAI, 2024). Gartner forecasts a 25% or greater reduction in organic search traffic for brands by 2026 as AI-generated answers supplant the traditional search engine results page (Gartner, 2024).

This shift creates an urgent need for new analytical frameworks. Traditional search engine optimization (SEO) metrics presume a click-based discovery model where visibility translates directly to traffic. In the emerging paradigm, visibility and traffic have become decoupled: a brand may appear prominently in AI-generated answers while experiencing declining organic sessions. Existing metrics cannot adequately capture this phenomenon.

The Zero-Click Laws address this gap by providing a systematic framework for detecting and quantifying displacement patterns. These laws are strictly descriptive: they document what happens under specific conditions without prescribing what organizations should do in response. This distinction is critical. The laws enable diagnosis; separate standards and strategies (documented elsewhere) provide remediation pathways.

## 2. Methodology and Scope

### 2.1 Law Structure

Each Zero-Click Law follows a consistent four-part structure designed for empirical testability:

- **If:** The observable condition or trigger state
- **Then:** The predicted outcome or behavioral pattern
- **Measured by:** The specific metric, formula, and threshold that confirms the law
- **Fails when:** Conditions under which the law does not apply or produces unreliable results

### 2.2 Core Metrics Defined

The Zero-Click Laws introduce three foundational metrics that enable cross-platform and cross-industry comparison:

**CTR Compression Ratio (CCR):** Calculated as  $\text{CTR\_current} / \text{CTR\_baseline}$ , this metric measures the compression of click-through rates under constant or rising impression volume. A CCR of 0.80 indicates that current CTR has declined to 80% of its baseline value.

**Displacement Index (DI):** Calculated as the difference between the percentage change in sessions and the percentage change in impressions ( $\Delta\text{Sessions}\%$  minus  $\Delta\text{Impressions}\%$ ), this metric quantifies the gap between visibility and traffic. A negative DI indicates that users are seeing content but not clicking through.

**Total Interaction Equity (TIE):** Calculated as Sessions divided by Impressions, this metric measures traffic-per-impression efficiency. Declining TIE indicates that each impression generates less traffic than historically expected.

### 3. The Zero-Click Laws

#### ZCL-01: The CTR Compression Law

**If** impression volume is flat or rising for a defined page/query set, and answer-style surfaces (SERP features, AI answers) increase for that query class, **then** click-through rate compresses faster than impressions decline.

**Measured by:**  $CCR = CTR_{current} / CTR_{baseline}$ . Trigger threshold:  $CCR \leq 0.80$  sustained for 14 or more days, where baseline equals the prior 28-56 days.

**Applies to:** Organic discovery queries with informational or comparative intent; ecommerce category pages; product pages historically ranking for non-brand queries.

**Fails when:** Title/meta changes occur, SERP position shifts materially (average position worsens by more than 1-2 positions), tracking configuration changes, or major seasonality/promotions distort the data.

#### ZCL-02: The Visibility Displacement Law

**If** impressions remain stable or rise but sessions decline over the same window, **then** visibility is being displaced (users see the brand but do not click).

**Measured by:**  $DI = (\Delta Sessions\% - \Delta Impressions\%)$ . Trigger threshold:  $DI \leq -15\%$  over a 28-day window versus baseline.

**Applies to:** Search Console property-wide metrics and cohorts (top 20 pages, top query groups).

**Fails when:** Site technical issues reduce clickability (downtime, speed regressions), or when ranking position drops explain the session decline.

#### ZCL-03: The Efficiency Collapse Law

**If** impressions do not drop proportionally with sessions, **then** traffic-per-impression efficiency collapses before revenue clearly signals the damage.

**Measured by:**  $TIE = Sessions / Impressions$ . Trigger threshold:  $TIE_{current} \leq 0.85 \times TIE_{baseline}$  sustained for 21 or more days.

**Applies to:** Sites and products with stable search demand.

**Fails when:** The impression mix shifts (new query classes enter, brand queries rise, irrelevant impressions increase).

#### ZCL-04: The Revenue Lag Law

**If** DI and CCR indicate displacement for multiple weeks, **then** revenue decline often lags traffic decline; the system creates a false sense of stability until conversion pools are exhausted.

**Measured by:**  $DI \leq -15\%$  for 28 or more days AND  $\Delta Revenue\%$  remains within  $\pm 5\%$  during that window, followed by  $\Delta Revenue\% \leq -10\%$  in the subsequent 28 days.

**Applies to:** Businesses with returning customers, email lists, or strong direct traffic that temporarily masks organic losses.

**Fails when:** Paid campaigns, affiliates, or promotions compensate for organic losses.

## **ZCL-05: The Non-Brand Fragility Law**

**If** answer engines expand for non-brand discovery queries (how-to, comparisons, "best X for Y"), **then** non-brand traffic declines faster than brand traffic, even when total impressions appear stable.

**Measured by:** Segment queries into brand versus non-brand. Trigger threshold:  
 $\Delta \text{NonBrandSessions\%} \leq -15\%$  while  $\Delta \text{BrandSessions\%} \geq -5\%$  over the same 28-day window.

**Applies to:** Sellers and publishers relying on non-brand discovery.

**Fails when:** A major brand campaign changes branded demand.

### **ZCL-06: The Citation Paradox Law**

**If** a brand is referenced or cited (in AI answers or SERP snippets) but clicks still decline, **then** "being mentioned" does not equal "being visited"; citations can become a substitute for traffic.

**Measured by:** Evidence of citation/mention (captured screenshots or logs) combined with  $CCR \leq 0.80$  OR  $DI \leq -15\%$  over 28 days.

**Applies to:** Informational products and expertise-driven brands.

**Fails when:** Citation links are prominently clickable and the surface encourages outbound navigation (rare; varies by platform).

### **ZCL-07: The Intent Capture Law**

**If** queries are primarily informational (definitions, steps, summaries) rather than transactional, **then** answer surfaces satisfy intent without visits; transactional queries retain relatively higher click need.

**Measured by:** Create query cohorts: informational versus transactional. Trigger threshold: informational cohort  $CCR \leq 0.75$  while transactional cohort  $CCR \geq 0.90$  (28-day window).

**Applies to:** Content, guides, templates, and "what is/how to" query sets.

**Fails when:** The cohort classification is incorrect or when product availability/pricing changes alter intent.

### **ZCL-08: The Platform Gatekeeping Law**

**If** a seller operates on a marketplace (Etsy, Gumroad, Shopify apps), and AI summarization reduces outbound clicks, **then** the marketplace becomes the default conversion endpoint; off-platform discovery becomes less reliable.

**Measured by:** Off-platform organic sessions decline ( $\Delta \text{Sessions}\% \leq -15\%$ ) while marketplace views/sales remain stable or rise (per platform analytics).

**Applies to:** Marketplace-first sellers.

**Fails when:** Marketplace search algorithm updates independently cause changes.

### **ZCL-09: The Compounding Displacement Law**

**If** DI remains negative for consecutive measurement windows, **then** the impact compounds; recovery requires disproportionate effort (content, positioning, schema work) versus initial loss.

**Measured by:**  $DI \leq -10\%$  for 2 consecutive 28-day windows, followed by further degradation (DI becomes more negative or session decline accelerates).

**Applies to:** Sites without strong brand or direct channels.

**Fails when:** A major one-off event spikes demand (virality, PR coverage).

### **ZCL-10: The Benchmarkability Law**

**If** metrics are normalized (CCR, TIE, DI) and segmented consistently, **then** displacement can be benchmarked across industries without requiring identical traffic volumes.

**Measured by:** Stable baseline window plus consistent cohorts plus normalized ratios. Trigger threshold: Benchmarks produce consistent percentile bands across multiple cohorts (pages, products, query groups).

**Applies to:** Any property with reliable measurement.

**Fails when:** Data hygiene is poor (tracking breaks, inconsistent segmentation, incomplete revenue attribution).

## 4. Benchmark Thresholds

The following thresholds represent initial operational benchmarks intended to detect and classify displacement patterns. Future versions will replace fixed thresholds with percentile-based bands derived from multi-property distributions and validated across industries.

Metric	Formula	Watch	Action	Critical
CCR	$\text{CTR\_current} / \text{CTR\_baseline}$	$\leq 0.90$	$\leq 0.80$	$\leq 0.70$
DI	$\Delta\text{Sessions\%} - \Delta\text{Impressions\%}$	$\leq -10\%$	$\leq -15\%$	$\leq -25\%$
TIE Shift	$\text{TIE\_current} / \text{TIE\_baseline}$	$\leq 0.90$	$\leq 0.85$	$\leq 0.75$
Non-Brand Drop	$\Delta\text{NonBrandSessions\% (28d)}$	$\leq -10\%$	$\leq -15\%$	$\leq -25\%$
Compounding	Consecutive negative DI windows	2 windows	3 windows	4+ windows

### 4.1 Measurement Protocol

**Baseline window:** Prior 28-56 days (use 56 days if seasonality is strong).

**Current window:** Rolling 28 days (also compute 7-day for early warning, but publish 28-day for stability).

**Sustained requirement:** CCR and TIE thresholds should hold for 14 or more days to reduce noise.

**Required segmentation:** At minimum, segment by brand versus non-brand queries, top pages/products versus long tail, and informational versus transactional query cohorts.

## 5. Discussion and Limitations

The Zero-Click Laws provide a diagnostic framework, not a predictive model. They enable practitioners to identify displacement patterns and classify their severity, but they do not predict when or whether displacement will occur for any specific property. The laws assume reliable data instrumentation; properties with inconsistent tracking, frequent configuration changes, or incomplete attribution will produce unreliable results.

The benchmark thresholds presented in Section 4 are provisional. They represent operationally useful starting points derived from observed patterns, but they have not been validated through large-scale empirical study. Future research should establish percentile-based benchmarks using multi-industry datasets.

Importantly, these laws describe observable phenomena in the current digital landscape. As AI platforms evolve—particularly with the introduction of features such as Google AI Mode (May 2025)—the specific thresholds and even the fundamental dynamics may shift. The framework is designed to accommodate such evolution through versioned updates.

## 6. Conclusion



The Zero-Click Laws establish a systematic framework for understanding the decoupling of visibility and traffic in AI-mediated digital discovery. By introducing standardized metrics (CCR, DI, TIE) and empirically testable propositions, this framework enables organizations to diagnose displacement patterns before they manifest as revenue decline. The laws are strictly descriptive: they document what happens under specified conditions. Prescriptive guidance for remediation is addressed in the companion Structural Authority Standard.

As AI answer engines continue to expand their role in digital discovery, the need for rigorous analytical frameworks will intensify. The Zero-Click Laws provide a foundation for that analysis.

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## About the Author

DrewIs Intelligence LLC is an AI consulting and services firm specializing in generative engine optimization, answer engine optimization, and zero-click strategy. The firm's research focuses on the intersection of artificial intelligence and digital visibility, with published work on GEO methodologies and the zero-click paradigm. For more information, visit <https://drewis.ai>.