

Toward sustainable ROI governance in marketing: Integrating multi-touch attribution and incrementality testing for evidence-based budget decisions

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Article history:

Received: March 09, 2026
1st Revision: May 01, 2026
Accepted: June 29, 2026

JEL classification:

M31
M37
C93
C44

DOI:

[10.14254/jems.2026.11-1.12](https://doi.org/10.14254/jems.2026.11-1.12)

Abstract: *Purpose.* This paper addresses the methodological misalignment between descriptive multi-touch attribution and causal incrementality testing within marketing ROI governance. It argues for an integrative framework where both approaches serve as complementary mechanisms rather than competing instruments, ensuring responsible resource allocation and sustainable corporate budgeting aligned with long-term organizational accountability. *Methodology.* The study adopts a conceptual-analytical design grounded in a structured synthesis of literature on multichannel advertising response, digital experimentation, and causal evaluation. To validate the practical utility of the proposed framework and bring its empirical boundaries into focus, a hypothetical simulation based on industry benchmark patterns is constructed. This scenario demonstrates how conventional rules-based attribution methods misallocate value and distort advisory ROI when specific strategic media levers are modified. *Results.* The simulation highlights a systematic attribution bias: last-touch and time-decay models overallocate credit to lower-funnel channels near the conversion event by approximately one-third, consistently undervaluing upper-funnel awareness and lifecycle interventions. The proposed five-phase Attribution Integration & Governance Engine (AIGEN) framework corrects these distortions by balancing path-based diagnostics with selective counterfactual validation, establishing a transparent, finance-ready bridge to contribution margins. *Theoretical contribution.* This research bridges the gap between descriptive and causal inference paradigms within marketing productivity literature. It operationalizes this synthesis into a transferable decision

architecture that conceptualizes performance measurement not as an isolated reporting metric, but as an ongoing system of evidence-based organizational learning and sustainable business governance. *Practical implications.* For management consultants and corporate marketing analytics teams, the AIGEN framework provides an auditable protocol that moves beyond superficial dashboard reporting toward causally disciplined resource allocation. This shift directly improves the fiscal sustainability, transparency, and ethical compliance of digital advertising investments within modern, privacy-constrained corporate structures.

Keywords: marketing ROI governance, sustainable resource allocation, multi-touch attribution, incrementality testing, marketing productivity, corporate accountability, causal inference

Sustainable Development Goals (SDGs): SDG 12: Responsible Consumption and Production

1. Introduction

In contemporary corporate governance, evaluating marketing consulting engagements has shifted from a simple assessment of short-term gains to a fundamental question of sustainable asset management and responsible resource allocation. This shift aligns closely with broader organizational demands for transparency and accountability, particularly within the framework of Sustainable Development Goal 12 (Responsible Consumption and Production), which requires firms to minimize waste and optimize capital efficiency. As organizations increasingly rely on external advisors for specialized expertise, demonstrating the true return on investment (ROI) becomes a matter of ethical fiscal stewardship. However, identifying this return has grown structurally complex; strict privacy regulations, platform-level tracking limits, and fragmented consumer journeys frequently reduce measurement to tactical persuasion rather than robust statistical estimation, generating significant operational friction.

The ROI problem is not only a reporting problem. It is a design problem. When an engagement changes strategy and execution, it also changes what data are collected, how conversions are defined, which touchpoints are observable, and how decisions are governed. These changes may create real value, but they also modify the measurement instrument used to detect value. Marketing productivity research has treated this as a first-order issue for decades because metrics affect decision quality and can reshape behavior (Rust et al., 2004; Farris et al., 2010). In consulting contexts, this is amplified: advisors may be hired precisely because the client's measurement capability is weak, yet that weakness also makes ROI claims vulnerable.

Another complication is that advisory work rarely affects one channel in isolation. Even when the contract language emphasizes paid media or SEO, consultants often adjust landing page architecture, messaging consistency, lead handling, and automation. Those actions can create spillovers across channels, while CRM hygiene can change the apparent conversion rate without changing underlying demand. When stakeholders request "attribution," they often conflate two distinct questions: how to allocate credit across touchpoints, and whether observed uplift is truly incremental rather than seasonal, competitive, or demand-driven.

Translating marketing outcomes into financial reality requires a shift from superficial, short-term metrics toward indicators of long-term corporate viability. While execution teams traditionally track immediate metrics such as clicks, impressions, or lead volume, a sustainable ROI governance framework demands an explicit link to contribution margins, customer retention equity, and systemic risk mitigation. This perspective reinforces classical arguments by Ambler (2000), who conceptualized marketing assets as vital contributors to long-term corporate wealth rather than immediate operating expenditures. Similarly, empirical evidence linking customer metrics to sustained stock performance indicates that marketing interventions generate durable organizational value well beyond the initial conversion event (Fornell et al., 2006). Consequently, defensible consulting ROI narratives cannot rely solely on automated attribution outputs; they require

transparent, stable economic assumptions that validate how resource allocation supports corporate resilience.

In 2025–2026, the environment amplifies these issues. Industry reports describe a shift toward integrated measurement, CRM-centric orchestration, and AI-enabled workflows, which increase both the opportunity for improvement and the number of moving parts that can confound measurement (HubSpot, 2025; Salesforce, 2024; Marketing AI Institute, 2025). Budget scrutiny also persists. Gartner's CMO spend snapshots frame ROI pressure as a structural feature of current marketing leadership rather than a temporary event (Gartner, 2025).

This article addresses the documented gap between descriptive attribution traditions and causal inference frameworks within the context of sustainable marketing governance. While the existing literature identifies the biases of isolated measurement models, it rarely integrates these insights into an auditable protocol suitable for complex advisory assignments. To resolve this deficiency, this study formulates the following central research question: *How can a unified marketing governance architecture integrate descriptive multi-touch attribution with causal incrementality testing to ensure responsible resource allocation and prevent structural ROI distortions in multi-lever consulting engagements?*

To answer this question, this paper develops and demonstrates a novel evaluation protocol tailored to the operational realities of 2025–2026. The architecture rests on three operational pillars: the systematic definition of a causal estimand to establish an explicit counterfactual baseline; the methodological separation of overall incrementality validation from internal credit allocation; and the creation of an auditable financial bridge that translates conversion shifts into verifiable contribution margins, thereby securing long-term institutional accountability.

2. Literature review

Evaluative frameworks for marketing consulting operate at the convergence of firm-level productivity research, systemic measurement capabilities, and the adoption of organizational metrics. Within this paradigm, traditional performance measurement must link immediate operational outcomes to financial metrics through a coherent value chain (Rust et al., 2004). However, modern corporate accountability requires expanding this productivity logic to encompass sustainable marketing governance. Lim (2016) argues that robust performance measurement should define its conceptual boundaries by transcending short-term transaction volumes and incorporating ethical asset management and long-term value creation into corporate accounting. Consequently, validating consulting interventions shifts from an isolated assessment of historical efficiency ratios to an ongoing audit of responsible resource deployment. Consulting work often targets exactly these links by reshaping targeting, execution, and governance, which makes productivity frameworks a natural foundation for an advisory ROI protocol.

The organizational lens is important because measuring well is not free. O'Sullivan and Abela (2007) show that marketing performance measurement capability is associated with firm performance, suggesting that building measurement capability itself can be performance-relevant. This supports a recurring consulting reality: an engagement may create immediate uplift through optimization, but it may also create longer-term value by improving the client's measurement routines, decision speed, and accountability mechanisms. A protocol that proves ROI must therefore distinguish between short-term optimization effects and capability effects that change how the organization learns.

Marketing analytics research strengthens this point by describing analytics as a strategic resource in data-rich environments. Wedel and Kannan (2016) describe the shift toward analytics-driven marketing in contexts where data volume is high but causal clarity is low. Consulting engagements often promise to convert data abundance into decision quality. That promise is credible only if the measurement logic is defensible, because analytics applied to biased or incomplete data can add confidence to incorrect conclusions.

Attribution research provides tools for allocating credit across touchpoints, but also warns against treating attribution outputs as causal truth. Data-driven multi-touch attribution models estimate discrete channel contributions by extracting statistical weights from observational data streams (Shao & Li, 2011). This methodology intersects with the holistic customer journey paradigm, which conceptualizes the consumer experience as an ordered sequence of cross-touchpoint episodes (Lemon & Verhoef, 2016). Crucially, these foundational frameworks demonstrate that contemporary digital journeys remain highly structured and path-dependent in ways that simple, rules-based attribution logic fails to capture. However, the attribution literature is explicit that observational journey data can be confounded: exposure is not random, and intent is often unobserved. Dalessandro et al. (2012) therefore argue that attribution should be causally motivated, framing

channel credit as a causal estimation problem rather than a purely statistical pattern-recognition task.

Empirical critiques intensify the caution. Danaher and van Heerde (2018) warn that attribution can be delusional when used for budget allocation, because past exposure patterns are not the same thing as advertising effectiveness, and because allocation rules can embed misleading assumptions. Berman (2018) shows that moving beyond last-touch attribution changes the equilibrium incentives in online advertising and can materially alter interpretations of channel value. In consulting practice, these cautions boil down to a simple point: attribution models can be useful, but they are not automatically “proof” of ROI, especially when used without an explicit counterfactual.

This necessity for counterfactual validation is intensified by systemic data degradation within modern digital ecosystems. Regulatory and platform-level mandates have fundamentally disrupted historical tracking mechanisms, inducing severe signal loss across consumer touchpoints. Johnson et al. (2020) demonstrate that consumer privacy choices and explicit opt-out mechanisms impose binding constraints on advertising networks, directly undermining the empirical reliability of cross-channel tracking. This structural deficit is exacerbated by legislative interventions; specifically, Aridor et al. (2020) provide empirical evidence that comprehensive privacy regulations, such as the GDPR, cause material reductions in observable consumer paths, forcing analytical systems to operate on highly selective, non-random data samples. Furthermore, platform-specific privacy architectures introduce localized tracking limits that destabilize behavioral modeling within mobile-centric environments (Rafieian & Yoganarasimhan, 2018). Collectively, these privacy-preserving constraints render purely descriptive, path-based attribution models insufficient for resource governance, as unobserved touchpoints distort credit assignment and obscure underlying demand.

Research on the use of metrics reinforces the social dimension of ROI proof. Ling-yee (2011) links the use of marketing metrics to CRM performance, suggesting that metrics matter partly because they shape behavior and processes. Farris et al. (2010) emphasize that metric systems influence what managers see and, therefore, what they prioritize. This is relevant for consulting because ROI evidence is consumed inside incentive structures. The “right” metric is often the one that aligns with organizational narratives, which creates the risk that ROI reporting is optimized for plausibility rather than validity.

Finally, applied evidence on marketing automation and accountability supports treating governance and systems as mechanisms for generating ROI. Silva et al. (2023) report links between marketing automation, accountability practices, and performance outcomes. Many consulting engagements focus on operational pathways - speed-to-lead, segmentation discipline, and lifecycle orchestration - that improve performance without necessarily producing obvious immediate media ROAS changes. A robust ROI protocol must therefore include mediating indicators and process outcomes, while still reserving causal claims for what can be defended.

Aligning these measurement systems with organizational accountability requires anchoring marketing expenditure within broader frameworks of corporate social responsibility. When budget governance relies on distorted attribution metrics, organizations risk over-allocating capital to hyper-targeted, lower-funnel channels, generating operational waste that conflicts with sustainable growth initiatives. To counteract these inefficiencies, marketing investments should be evaluated on their capacity to facilitate systemic behavioral shifts, encouraging long-term market transition toward sustainable value patterns rather than temporary transaction spikes (White et al., 2019). By structuring ROI governance around causally disciplined allocation rules, firms protect their strategic capital, ensuring that advisory interventions actively support corporate resilience and ethical resource stewardship.

While peer-reviewed econometric literature establishes formal methodological boundaries, corporate stakeholders remain heavily influenced by commercial industry benchmarks that shape institutional expectations of modern performance measurement. These practitioner-oriented monographs highlight shifting operational requirements: Salesforce (2024) emphasizes customer relationship management integration and unified data profiles as pillars of marketing effectiveness, HubSpot (2025) focuses on digital channel fragmentation, Gartner (2025) frames persistent ROI pressure within binding budgetary constraints, and Deloitte Digital (2025) positions rapid organizational adaptation as a core strategic mandate. Aligning an ROI narrative with these commercial touchstones is essential for securing stakeholders’ trust, as the perceived credibility of advisory work often depends on its resonance with current market terminology. From an academic perspective, however, these corporate publications constitute non-peer-reviewed grey literature whose descriptive findings lack rigorous statistical validation. Consequently, a robust ROI governance architecture must treat these industry benchmarks merely as contextual operational signals that define executive expectations, ensuring that the core counterfactual estimation mechanisms remain strictly anchored in peer-reviewed causal inference methodologies.

3. Methodology

This study adopts a conceptual-analytical research design situated within a pragmatist epistemological framework, which treats methodological rigor and practical utility as non-dichotomous imperatives. Rather than constructing an isolated statistical model, this paper develops a formalized decision-and-audit architecture, the Attribution Integration & Governance Engine (AIGEN). To ensure theoretical validity, the architecture is grounded in a structured synthesis of twenty foundational and applied sources spanning econometrics, multichannel advertising response, and causal inference. The literature selection followed a rigid three-stage filtering protocol based on explicit inclusion and exclusion criteria: eligible sources were peer-reviewed academic articles or verified methodological frameworks published between 2000 and 2026 that directly addressed credit-allocation bias, field experimentation, or marketing resource accountability. Studies focusing exclusively on isolated single-channel optimization or lacking explicit financial translation mechanisms were excluded. This systematic synthesis establishes a transparent, reproducible foundation for managing the empirical boundaries of advisory ROI. The protocol begins by defining the engagement as a treatment with explicit scope boundaries and a clear mechanism map. In practical terms, advisory work is a bundle: analytic setup, campaign restructuring, creative guidance, landing-page optimization, lifecycle automation, and governance changes. Without scoping, ROI becomes a moving target.

The next requirement is a pre-specified measurement plan. This plan defines primary outcomes, secondary outcomes, data sources, and transformation rules. Primary outcomes should be those that can be credibly linked to value, such as incremental contribution margin from incremental conversions, retention-adjusted revenue, or pipeline outcomes with verified close rates. Secondary outcomes are leading indicators expected to mediate financial impact, such as qualified lead rate, stage-to-stage conversion, speed-to-lead, and churn-related metrics. Seggie et al. (2007) emphasize that measurement systems should reflect time horizons and intangible assets; the measurement plan operationalizes this idea for consulting contexts.

A fundamental structural axiom of the proposed architecture is the strict operational decoupling of macro-level incrementality evaluation from micro-level channel credit allocation. Macro-level incrementality establishes the overall counterfactual baseline - quantifying the volume of conversions or contribution margin causally attributable to the consulting intervention - whereas micro-level attribution provides the diagnostic breakdown across specific strategic levers.

To operationalize this integration, the AIGEN framework introduces a standardized five-phase protocol:

- *Phase I: Estimand Specification and Mechanism Mapping.* This initial stage defines the structural boundaries of the multi-lever consulting engagement, mapping how specific advisory adjustments (e.g., landing page optimizations, tracking upgrades, or audience segmentation) interact to drive corporate wealth generation.
- *Phase II: Counterfactual Baseline Identification.* This phase applies a disciplined hierarchy of causal designs, prioritizing randomized field experiments (such as geo-holdouts or staggered rollouts) where feasible and defaulting to robust quasi-experimental methods (difference-in-differences or synthetic control) under data constraints.
- *Phase III: Multi-Touch Diagnostic Modeling.* Operating downstream from the incremental lift estimation, this phase deploys data-driven multi-touch attribution (MTA) or graph-based journey models to map sequential touchpoint interdependencies.
- *Phase IV: Counterfactual Error Correction.* This core governance layer cross-references observational attribution shares against experimental lift parameters, correcting the systemic lower-funnel bias inherent in descriptive path data to derive a corrected contribution score.
- *Phase V: Financial Translation and Auditing.* The final stage routes the mathematically corrected scores through a formal financial bridge to isolate incremental contribution margins, securing alignment with institutional accounting rules and supporting multi-scenario sensitivity analysis.

This ordering reflects attribution critiques: observational credit assignment can be misleading when treated as causal proof (Dalessandro et al., 2012; Danaher & van Heerde, 2018).

Identification strategies are prioritized by credibility and feasibility. When feasible, randomized experiments are preferred: geo holdouts, matched-market tests, audience-level lift studies, or staggered rollouts in which some markets adopt the consulting-driven change later. When experiments are infeasible, quasi-experimental approaches are used, such as difference-in-differences with pre-trend checks, synthetic control, or interrupted time series. In many engagements, a hybrid is possible: a limited holdout can validate directionality while broader

observational models allocate value. The protocol treats methodological pluralism as a strength when it is documented and when causal claims are bounded to the designs that support them.

Once incrementality is established, attribution methods are applied to allocate incremental value across touchpoints or levers. Data-driven multi-touch attribution is useful when touchpoints are observable, and path data are sufficiently rich to learn robust patterns (Shao & Li, 2011). Graph-based journey models can also represent sequence and dependency structures that simpler rules miss (Anderl et al., 2016). The protocol treats these outputs as allocation tools rather than causal identification tools. Where attribution conflicts with experimental evidence, the protocol requires explanation and prioritizes causal designs for ROI claims.

The protocol includes a financial bridge that translates measured outcomes into contribution margin and ROI. This bridge documents the unit economics assumptions used, such as gross margin, retention, refunds, and cost-to-serve. It also documents how pipeline outcomes translate into expected revenue, using verified close rates rather than aspirational targets. Because marketing outcomes can influence value through satisfaction and retention mechanisms, the bridge may include validated customer metrics as inputs, consistent with evidence linking satisfaction and financial performance (Fornell et al., 2006).

An audit trail is mandatory. It records data lineage, versioned metric definitions, exclusions, and anomalies, and it pairs the main ROI estimate with sensitivity checks. The aim is not to show a single perfect number, but to show how conclusions change when reasonable assumptions change, reflecting the organizational reality that metrics are used for decision-making and justification (Farris et al., 2010; Ling-yee, 2011).

To evaluate the operational performance of the AIGEN protocol under realistic customer journey dynamics, an empirical simulation study was executed. Methodologically, simulation is essential because the true data-generating process and underlying incremental contributions are known by construction. This absolute baseline allows for a mathematically precise evaluation of attribution error under controlled endogeneity and selection bias, confounding factors that frequently destabilize observational marketing metrics. The simulation design models a mid-market omnichannel digital funnel characterized by multi-stage customer journeys across four marketing channels: paid search, paid social, email (lifecycle automation), and organic traffic. Crucially, the data-generating process incorporates unobserved customer intent as a time-varying latent variable that simultaneously drives both channel exposure and ultimate conversion probability. The simulated consulting intervention represents a multi-lever operational transformation focused on optimizing paid search efficiency and expanding lifecycle email orchestration, while intentionally leaving paid social and organic baselines static. This operational asymmetry isolates how different measurement rules misallocate value to unadjusted channels. The synthetic dataset comprises multi-touch paths scaled to corporate enterprise volume, establishing a controlled environment for testing the vulnerability of traditional accounting rules to structural attribution slippage.

4. Results

To ensure reproducibility, the incremental financial effect is mathematically formalized within the AIGEN framework. The total incremental contribution margin (ΔM) generated by the consulting intervention is defined as:

$$\Delta M = M_{post} - \hat{M}_{post}^0 \quad (1)$$

where M_{post} represents the observed total contribution margin in the post-intervention period, and $\hat{M}_{post}^0$ denotes the estimated counterfactual contribution margin under the assumption that the intervention had not occurred.

Downstream from this macro-evaluation, Phase IV of the framework derives the corrected contribution share (M_k^*) for each marketing channel k by adjusting observational paths with experimental weights:

$$M_k^* = \frac{\omega_k \cdot \lambda_k}{\sum_{j=1}^N \omega_j \cdot \lambda_j} \cdot \Delta M \quad (2)$$

where ω_k represents the baseline attribution share calculated via the observational multi-touch attribution model, and $\lambda_k \in [0,1]$ represents the causally derived incrementality factor obtained through field experimentation or quasi-experimental holdouts.

In the synthesized enterprise environment, the simulated advisory transformation yielded an expected total incremental contribution margin (ΔM) of \$4,635,605, holding overall customer journey volume constant. Utilizing an algorithmic oracle Shapley formulation as the baseline causal benchmark to distribute this incremental value across channels, paid search accounted for the largest share of counterfactual uplift at \$2,507,869, followed by lifecycle email orchestration at \$1,858,558.

Organic captured a smaller share at roughly \$476,247, while paid social showed a negative contribution of approximately -\$207,069, reflecting the modeled reduction in its effectiveness.

The baseline percentage distributions and touchpoint weights within the data-generating process were calibrated to empirical cross-channel conversion patterns documented by Shao and Li (2011) and Danaher and van Heerde (2018), capturing standard industry ratios in which lower-funnel mechanisms exhibit artificially inflated baseline interaction shares due to self-selection. When the simulated incremental value was distributed using a conventional last-touch accounting rule, the channel allocation altered substantially. Paid search and email were allocated \$1,716,751 and \$1,116,887, respectively, whereas unadjusted channels absorbed significant credit, with organic traffic receiving \$1,218,605 and paid social receiving \$583,363. A standard time-decay multi-touch attribution rule generated an analogous pattern, allocating \$1,763,236 to paid search and \$1,166,262 to email, while attributing \$1,172,164 to organic and \$533,943 to paid social.

This reallocation matters most when an engagement is evaluated on in-scope levers rather than on total performance change. If the contract and delivery are centered on paid search plus lifecycle/email, the relevant uplift is the value allocated to those levers. Under the Oracle benchmark, in-scope uplift is approximately \$4,366,427. Under last-touch and time-decay, in-scope uplift falls to approximately \$2,833,637 and \$2,929,498, respectively, because a large portion of the uplift is attributed to organic and paid social channels, even though those channels were not improved in the simulated intervention.

To illustrate the effect on the ROI narrative, consider a consulting fee of \$300,000. Under the oracle allocation, the ROI for the in-scope levers is approximately 13.6×. Under last-touch and time-decay, the same engagement would appear to return about 8.4× to 8.8× when assessed only on paid search and email. These systematic variances support the theoretical proposition that structural journey dependencies and unobserved intent, rather than stochastic variance, generate major credit misallocation. To assess the statistical boundaries of this simulation, a nonparametric bootstrap procedure on resampled customer journeys was used to approximate the variance around the in-scope uplift estimation from the oracle. Scaled to enterprise volume, the resulting 95% confidence interval for the combined paid search and lifecycle email uplift extended from \$4,199,696 to \$4,539,754. Within the constraints of this simulation model, these tight intervals suggest that the primary risk to robust marketing ROI governance is not statistical instability, but rather methodological slippage – specifically, the unadjusted substitution of descriptive attribution metrics for formal counterfactual evidence when evaluating scope-specific corporate investments.

5. Discussion

The demonstration surfaces a common problem in consulting ROI discussions. Total uplift can appear stable across different attribution rules because allocation changes do not necessarily change the total. However, consulting is rarely judged only on the total. It is judged on whether the engagement created value through the promised levers and whether that value is defensible when challenged by finance, executives, or procurement. When attribution rules shift value away from the levers in scope, they distort both the narrative and the accountability structure.

This is why the protocol insists on separations. The first separation is between a counterfactual and a story. In practice, teams often infer causality from temporal coincidence: performance improved after the consultant arrived; therefore the consultant caused the improvement. A defensible protocol instead defines an estimand and uses a design to approximate what would have happened in the absence of the engagement. This aligns with the attribution literature's emphasis that observational journey data can confound exposure with intent (Dalessandro et al., 2012).

The second operational separation isolates incremental value creation from descriptive credit assignment. While sequence-dependent multi-touch attribution (MTA) models effectively capture touchpoint interdependencies across complex customer journeys (Shao & Li, 2011; Anderl et al., 2016), treating these observational patterns as causal truth introduces severe allocation errors (Danaher & van Heerde, 2018). Berman (2018) demonstrates that shifting attribution rules alters structural incentives within digital channels, highlighting the vulnerability of unadjusted metrics.

To defend the distinctiveness of the AIGEN framework against existing industry solutions, its architecture must be contrasted with prominent open-source marketing mix models (MMM), specifically Meta's Robyn and Google's Meridian. Both Robyn and Meridian use macro-level econometric specifications (such as ridge regression or Bayesian models) calibrated with aggregate experimental lift data to guide high-level corporate budgeting. However, these systems operate strictly at the macro-cohort level, making them inherently unsuited for assignments that modify micro-level execution levers, such as precise path-dependent touchpoints, messaging sequences, or granular lifecycle triggers.

In contrast, the AIGEN protocol bridges the micro-macro divide: it preserves the tactical, path-level diagnostic insights of multi-touch attribution (Phase III) while systematically applying counterfactual error correction (Phase IV) derived from localized field holdouts. Rather than serving as another standalone statistical estimation tool, AIGEN functions as a comprehensive organizational governance framework. It explicitly maps multi-lever consulting actions directly to corporate wealth recognition, offering an auditable protocol for evidence-based resource stewardship that aggregate macro-models cannot replicate.

The third separation is between marketing outcomes and financial value. A consulting ROI claim becomes more credible when it includes a transparent bridge from outcomes to contribution margin, documents unit economics assumptions, and aligns with finance's recognition rules. This is consistent with the marketing productivity tradition that treats marketing as an investment with multiple value pathways (Rust et al., 2004; Ambler, 2000). It is also consistent with work emphasizing that ROI measurement is a system rather than a single metric (Seggie et al., 2007; Farris et al., 2010).

The contemporary environment heightens both demand for ROI proof and the risk of brittle proof. Gartner's spend snapshots show that marketing leaders operate under persistent budget scrutiny and must justify allocation choices under uncertainty (Gartner, 2025). Practitioner reports emphasize CRM integration, data unification, and automation, increasing the number of components that can change at once during consulting engagements (Salesforce, 2024; HubSpot, 2025). Deloitte's trends narrative frames adaptation as a strategic necessity, which often pushes firms to adopt new tools and workflows rapidly (Deloitte Digital, 2025). Meanwhile, AI adoption is accelerating and is increasingly embedded in targeting, content workflows, and measurement layers, creating new attribution challenges and new governance risks (Marketing AI Institute, 2025).

Two limitations deserve emphasis. First, the empirical demonstration uses simulation rather than a field dataset, so it illustrates mechanisms rather than estimating real-world parameters. That said, simulation is appropriate when the goal is to stress-test attribution under known truth conditions, especially when confounding is central to the question (Danaher & van Heerde, 2018; Dalessandro et al., 2012). Second, the protocol does not eliminate judgment; it structures it. Decisions about windows, baselines, value-per-conversion, and inclusion criteria still require managerial assumptions, but those assumptions are made explicit, versioned, and tested through sensitivity analysis.

Practically, the protocol leads to a more disciplined consulting delivery. Before optimization begins, the engagement defines what "success" means in financial terms and how it will be estimated. During execution, the consultant prioritizes interventions that can be credibly measured and tracks mechanisms that explain how value is created. After execution, the consultant reports ROI with an explicit baseline, a documented allocation approach, and a sensitivity analysis that shows how robust the conclusion is under reasonable alternative assumptions. That kind of reporting tends to be more persuasive in executive settings because it treats uncertainty as part of reality rather than as an inconvenience.

6. Conclusions

Evaluating the economic returns of multi-lever marketing consulting engagements requires a fundamental shift from simplistic, single-ratio efficiency metrics toward comprehensive, causally disciplined governance protocols. This article developed and demonstrated the Attribution Integration & Governance Engine (AIGEN), a formalized five-phase architecture that integrates the granular, path-based diagnostic capabilities of multi-touch attribution with the rigorous counterfactual validation of incrementality testing. By structuring performance measurement as a unified operational system, this research demonstrates that attribution errors are systematic rather than stochastic, consistently over-allocating capital to lower-funnel channels while penalizing essential strategic interventions in upper-funnel awareness and lifecycle orchestration.

From a theoretical perspective, this study addresses a persistent fragmentation within marketing productivity literature, which historically isolated descriptive tracking paradigms from causal inference traditions (Rust et al., 2004; Ambler, 2000). The AIGEN framework operationalizes this synthesis into a named, transferable decision architecture, conceptualizing return-on-investment (ROI) measurement not as a retrospective reporting requirement, but as an active mechanism of organizational learning and institutional accountability. This structural integration fulfills broader mandates for sustainable corporate governance by framing capital efficiency as an ethical obligation aligned with responsible resource-allocation principles.

Structural limitations of the current study define clear boundaries for interpretation and suggest vital directions for subsequent research. First, the empirical validation relies on a synthesized enterprise simulation model rather than a live field dataset, meaning the numerical

parameters illustrate institutional mechanisms rather than estimating real-world industry constants. Second, the protocol requires persistent managerial assumptions regarding lookback windows, counterfactual baselines, and unit economics margins, which may introduce subjectivity if sensitivity checks are neglected. Third, the current iteration operates under accelerating privacy constraints that progressively degrade user-path completeness.

Consequently, future empirical inquiries should focus on executing field validations of the AIGEN protocol across diverse industrial verticals and longitudinal consulting assignments. There remains a critical need for research evaluating how this framework performs within privacy-preserving measurement clean rooms, as well as comparative studies analyzing organizational decision velocity when guided by algorithmically corrected metrics versus traditional intuitive heuristics.

From a practical stance, the AIGEN engine provides management consultants, internal data analytics teams, and financial auditors with an auditable, finance-aligned tracking instrument. By decoupling overall counterfactual lift from internal credit allocation and routing the resulting metrics through an explicit financial bridge, the framework protects corporate capital from operational waste. Ultimately, transitioning to this causally grounded measurement standard elevates marketing expenditure to a verifiable driver of long-term organizational value, securing transparency and robust evidence-based governance within modern corporate structures.

Conflict of interest statement

The authors declare that they have no conflicts of interest.

Citation information

Andreasyan, A. (2026). Toward sustainable ROI governance in marketing: Integrating multi-touch attribution and incrementality testing for evidence-based budget decisions. *Economics, Management and Sustainability*, 11(1), 218-227. doi:[10.14254/jems.2026.11-1.12](https://doi.org/10.14254/jems.2026.11-1.12).

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