

Beyond Ceteris Paribus: A Contingency Framework for Contextual Return on Investment (C-ROI) in Dynamic Markets: Reconceptualising ROI as a Context-Sensitive Performance Metric

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Abstract: *Return on Investment (ROI) remains the most widely employed metric for evaluating marketing and business performance due to its simplicity and comparability. However, this simplicity rests on a restrictive assumption—that the conditions surrounding an investment remain constant. In practice, marketing outcomes emerge within complex environments shaped by behavioural, environmental, and macroeconomic forces. This study develops a Contextual Return on Investment (C-ROI) framework that reconceptualises ROI as a conditionally moderated function rather than a fixed ratio. The model integrates five classes of contextual multipliers—marketer effectiveness, demographic receptivity, temporal and seasonal alignment, consumer sentiment, and environmental conditions—within a multiplicative structure. By repositioning ROI as a context-sensitive construct, the study contributes to a more grounded understanding of performance measurement under real-world market conditions.*

Keywords: Return on Investment (ROI); Contextual Return on Investment (C-ROI); Marketing Performance Measurement; Behavioural Economics; Consumer Behaviour; Marketing Effectiveness; Contextual Marketing; Emerging Markets

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Introduction

Return on Investment has long served as a cornerstone of performance evaluation across business disciplines. Its enduring appeal lies in its capacity to condense complex financial outcomes into a single, interpretable figure (Rust et al., 2004). Yet this reduction, while useful for accounting purposes, offers limited insight into the underlying drivers of observed outcomes.

Marketing activity unfolds in environments characterised by variability rather than stability. Consumer decisions are shaped by mood, timing, social influence, and economic context (Ariely, 2008; Thaler & Sunstein, 2008). A campaign executed during a festive period may benefit from heightened demand irrespective of its intrinsic quality, while a well-designed initiative launched under adverse conditions may underperform despite strong execution. The conventional ROI metric does not distinguish between these scenarios.

The present study addresses this limitation by proposing a Contextual Return on Investment (C-ROI) framework. Despite its widespread adoption, ROI remains under-theorised as a context-dependent construct, particularly in dynamic and emerging market environments (Prahalad, 2010).

In addition, prior research on marketing productivity and customer equity highlights the importance of linking marketing investments to long-term value creation rather than short-term returns (Rust et al., 2004; Gupta & Lehmann, 2003). Similarly, customer journey and experience literature emphasises the role of contextual touchpoints in shaping outcomes across stages of interaction (Lemon & Verhoef, 2016). These perspectives further reinforce the need for context-sensitive performance frameworks.

Literature Review

The limitations of context-neutral performance metrics have been recognised across multiple research streams. Behavioural economics demonstrates that decision-making is systematically influenced by framing, affect, and cognitive bias (Kahneman & Tversky, 1979; Ariely, 2008). Environmental psychology shows that ambient conditions, including weather and atmosphere, significantly affect consumer behaviour (Turley & Milliman, 2000; Bitner, 1992). Marketing research further emphasises the importance of segmentation and contextual alignment (Steenkamp, 2017; Kotler & Keller, 2016).

Marketing Mix Modelling (MMM) has advanced the decomposition of sales outcomes into contributory factors (Hanssens et al., 2001). However, such approaches are often retrospective and analytically intensive, limiting their usability for routine managerial decision-making.

Despite these advances, existing approaches either prioritise analytical sophistication over usability or remain retrospective in orientation (Wedel & Kannan, 2016). A gap therefore exists for a theoretically grounded yet operationally accessible framework capable of integrating contextual determinants into performance evaluation.

In addition, emerging research in marketing analytics highlights the growing importance of integrating large-scale behavioural data with contextual variables to improve predictive accuracy (Wedel & Kannan, 2016). However, such models often prioritise computational sophistication over interpretability, creating a gap for parsimonious frameworks that balance analytical rigour with managerial usability.

Epistemic Limitations of Classical ROI

The classical ROI formulation rests on the assumption of *ceteris paribus*, where external conditions remain constant. While this assumption is valid in controlled financial contexts, it is problematic in dynamic market environments.

First, ROI is inherently retrospective, offering limited explanatory insight. Second, it treats all revenue as equivalent, ignoring contextual variation. Third, it assumes independence between investment and environment, overlooking situational alignment effects.

Consequently, identical ROI values may reflect fundamentally different underlying processes, leading to potential misinterpretation of performance outcomes.

Theoretical Foundations

The proposed framework integrates four theoretical perspectives.

Contingency theory suggests that effectiveness depends on alignment between strategy and environment. Behavioural economics highlights the role of psychological and situational influences (Kahneman & Tversky, 1979). Environmental psychology demonstrates the impact of ambient conditions on behaviour (Bitner, 1992). Macroeconomic segmentation emphasises the influence of purchasing power and demographic structure (Pralhad, 2010).

While these perspectives independently explain aspects of market behaviour, their integration within a unified performance metric remains limited. The present framework contributes by operationalising these perspectives within a single structure, translating abstract influences into measurable performance modifiers.

This perspective is also consistent with brand equity and consumer value frameworks, which emphasise the role of perception, experience, and contextual relevance in shaping outcomes (Aaker, 1991; Keller, 1993; Zeithaml, 1988).

Building on this integration, the present study advances a contingency-based theory of marketing ROI, wherein performance outcomes are not solely determined by investment efficiency but by the alignment between investment, context, and consumer response conditions. This reconceptualisation positions ROI as a context-dependent construct, extending traditional financial interpretations into a behavioural and environmental domain.

In this sense, the framework extends contingency theory into the domain of marketing performance measurement by formalising the role of contextual alignment in determining financial outcomes.

The C-ROI Framework: Architecture and Formal Specification

The model is intentionally specified in a parsimonious form to balance theoretical completeness with practical applicability. The Contextual Return on Investment framework extends the traditional ROI measure through a multiplicative structure incorporating contextual modifiers:

$$\text{Base ROI} = (\text{Net Profit} / \text{Cost}) \times 100$$

$$\text{C-ROI} = \text{Base ROI} \times \text{MEI} \times \text{DRS} \times \text{TSF} \times \text{CSI} \times \text{WAF}$$

Where:

MEI: Marketer Effectiveness Index

DRS: Demographic Receptivity Score

TSF: Temporal and Seasonal Factor

CSI: Consumer Sentiment Index

WAF: Weather Affect Factor

This formulation aligns with prior work on multiplicative response models in marketing analytics (Hanssens et al., 2001)

Each multiplier is normalised around 1.0, representing neutral conditions. Values above or below unity indicate amplification or suppression of returns.

The multiplicative form reflects the compounding nature of contextual alignment. Weakness in one dimension cannot be fully offset by strength in another, mirroring real-world market dynamics. As illustrated in Figure 1.

Component Analysis

Each component captures a distinct dimension of contextual influence:

MEI reflects execution quality, including presentation, timing, and persuasion.

DRS captures alignment between product positioning and target demographic characteristics.

TSF accounts for seasonal and cultural timing effects.

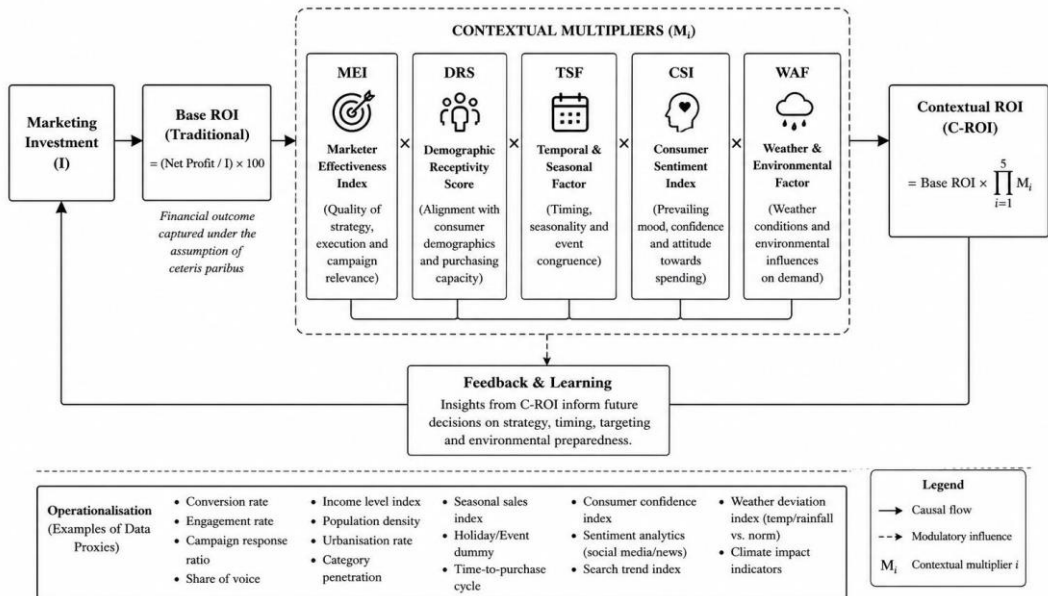
CSI reflects prevailing consumer sentiment and economic mood.

WAF captures both direct and affective impacts of environmental conditions.

Collectively, these components capture the conditions under which marketing outcomes are formed and interpreted.

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Figure 1. Conceptual Framework of Contextual Return on Investment (C-ROI)



Note: The model specifies a multiplicative relationship where each contextual factor (M_i) can amplify (>1) or dampen (<1) the base ROI.

Exemplifications

Two illustrative cases are presented to demonstrate the diagnostic and quantitative applicability of the proposed framework.

Case 1: Festive FMCG Campaign (India Context)

A consumer goods firm invested ₹1,00,000 in a Diwali campaign, generating a net profit of ₹85,000 (Base ROI = 85%). Applying contextual multipliers:

MEI = 1.30, DRS = 1.20, TSF = 1.60, CSI = 1.05, WAF = 0.95

Contextual Multiplier = $1.30 \times 1.20 \times 1.60 \times 1.05 \times 0.95 \approx 2.49$

C-ROI = $85 \times 2.49 \approx 211.65\%$

This indicates that a substantial proportion of the observed return was attributable to favourable seasonal and demographic alignment rather than execution alone.

Case 2: Beverage Campaign under Adverse Weather Conditions

A beverage brand recorded a Base ROI of 42%. However, contextual conditions were unfavourable:

MEI = 1.10, DRS = 1.00, TSF = 0.85, CSI = 0.80, WAF = 0.70

Contextual Multiplier ≈ 0.52

C-ROI $\approx 42 \times 0.52 \approx 21.84\%$

These cases demonstrate how the framework distinguishes between intrinsic performance and contextual amplification or suppression. From a practical standpoint, this distinction is particularly relevant in markets characterised by volatility and uneven demand patterns.

Propositions for Empirical Validation

The framework gives rise to several testable propositions:

P1: Contextual multipliers significantly explain incremental variance in ROI beyond baseline financial metrics, consistent with prior evidence on marketing productivity (Rust et al., 2004).

P2: The multiplicative specification of contextual factors provides superior explanatory power compared to additive models.

P3: Temporal and environmental modifiers exert disproportionately stronger effects in low-involvement, high-frequency product categories.

P4: Incorporating contextual modifiers in pre-campaign evaluation significantly improves predictive accuracy and resource allocation efficiency.

P5: The effect of marketer effectiveness (MEI) on C-ROI is positively moderated by temporal alignment (TSF).

P6: In emerging markets, demographic receptivity (DRS) exerts a stronger influence on C-ROI relative to developed markets (Prahalad, 2010).

P7: Negative environmental conditions ($WAF < 1$) disproportionately suppress C-ROI compared to positive amplification effects.

P8: The interaction between consumer sentiment (CSI) and marketer effectiveness (MEI) significantly influences conversion outcomes.

These propositions provide a basis for empirical testing using regression, SEM, or experimental designs.

Operationalisation and Measurement

Implementation requires the development of measurable proxies for each component. Campaign-level analytics may be used to capture marketer effectiveness (MEI), including conversion rates, engagement metrics, and response ratios. Demographic receptivity (DRS) can be approximated using income segmentation, purchasing power indices, and regional consumption patterns. Temporal and seasonal factors (TSF) may be derived from time-series sales data and seasonal demand indices. Consumer sentiment (CSI) can be proxied through consumer confidence indices or aggregated sentiment analytics, while weather affect (WAF) may be operationalised using deviations in weather conditions relative to historical norms.

Such proxy-based operationalisation enables the framework to be applied using archival and observational datasets, including marketing mix modelling and panel data structures (Wedel & Kannan, 2016). Both pre-campaign estimation and post-campaign calibration are essential to improve measurement reliability and reduce subjective bias.

Theoretical, Managerial, and Policy Implications

The framework contributes to theory by integrating behavioural, environmental, and economic perspectives into a unified performance model. It challenges the adequacy of context-neutral metrics and supports a more nuanced understanding of marketing effectiveness.

From a policy perspective, the framework highlights disparities in market conditions across regions and populations, informing more equitable and context-sensitive decision-making.

From a strategic standpoint, the framework aligns with market orientation literature, which links environmental responsiveness to firm performance (Narver & Slater, 1990), and with advertising effectiveness research emphasising contextual alignment (Tellis, 2006).

Managerial Contributions

For practitioners, the framework offers the following managerial advantages:

- A diagnostic tool for interpreting performance variance
- A predictive mechanism for campaign planning
- A structured approach to resource allocation

It enables managers to distinguish between performance driven by strategy and that driven by context.

Discussion, Implications, and Future Research

The proposed framework gives rise to several directions for further empirical and theoretical inquiry. Empirical validation across industries and geographies is essential. Future research should focus on empirical validation, causal identification, and integration with long-term constructs such as customer lifetime value (Gupta & Lehmann, 2003).

A key priority for future research lies in establishing causal inference through robust identification strategies, particularly in observational marketing data. In particular, the interaction between contextual variables and managerial decision-making warrants further investigation, as firms may systematically select favourable conditions, introducing potential endogeneity into observed outcomes.

Limitations

The framework is subject to several limitations. Measurement of contextual variables involves a degree of subjectivity. Data requirements may limit accessibility. The multiplicative structure may produce extreme values under certain conditions. Additionally, causal identification remains challenging due to potential endogeneity and interaction effects.

These limitations suggest directions for methodological refinement rather than undermining the framework's conceptual contribution.

Conclusion

The traditional ROI metric remains a valid accounting indicator but is analytically insufficient as an explanatory measure of marketing performance. The Contextual Return on Investment framework addresses this limitation by incorporating the conditions under which returns are generated.

By treating ROI as a context-sensitive construct, the framework provides a more realistic and actionable basis for evaluating and improving marketing effectiveness. In doing so, it contributes to the development of performance metrics better suited to the complexity of contemporary markets. In this sense, the framework reframes ROI from a static accounting measure to a context-sensitive analytical construct.

This repositioning has important implications for both academic research and managerial practice, particularly in volatile and context-sensitive market environments.

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