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CONVERGING FINTECH AND MARKETING TECHNOLOGY: AN INTEGRATED FRAMEWORK FOR AI-DRIVEN CUSTOMER ACQUISITION AND LIFETIME VALUE OPTIMIZATION IN DIGITAL-FIRST FINANCIAL SERVICES

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ABSTRACT

The convergence of Financial Technology (FinTech) and Marketing Technology (MarTech) represents one of the most structurally significant shifts in how financial services firms acquire, engage, and retain customers. While these two domains have historically operated in separate organizational silos — the former governed by compliance and product engineering, the latter by brand and growth teams — the proliferation of real-time data infrastructure, AI-driven decisioning engines, and open banking standards has created the conditions for deep integration. This paper develops an integrated framework that maps the architectural, economic, and behavioural dimensions of FinTech-MarTech convergence. Using a mixed-method approach combining systematic literature review, analysis of secondary market data from 2020 to 2024, and case analysis of three digital-first financial firms operating in India, Southeast Asia, and the United Kingdom, we demonstrate that firms with tightly integrated FinTech-MarTech stacks achieve a 23–38% reduction in customer acquisition cost (CAC) and a 19–31% improvement in 12-month net revenue retention (NRR) relative to firms with siloed architectures. We further identify three critical enablers — unified Customer Data Platforms (CDPs), compliant AI personalization layers, and real-time attribution infrastructure — whose joint presence is necessary but not sufficient without corresponding organizational redesign. We conclude by proposing a Maturity Model for FinTech-MarTech Integration (MMFMI) and outline its implications for product strategy, capital allocation, and regulatory design in emerging digital financial markets.

KEYWORDS: FinTech-MarTech Integration, AI Personalization, Customer Lifetime Value, Customer Acquisition Cost, Unified Customer Data Platform, Digital Financial Services

1. INTRODUCTION

The financial services industry is undergoing a dual disruption. On one axis, FinTech innovation has systematically unbundled the traditional bank — separating payments, lending, insurance, and wealth management into specialized digital-native products that compete on unit economics, speed, and experience rather than distribution network or balance sheet size.

On the other axis, the maturation of Marketing Technology has fundamentally altered how firms understand, reach, and

retain customers. The global MarTech landscape now encompasses over 11,000 distinct solutions across categories ranging from customer data platforms and journey orchestration engines to predictive analytics and consent management tools.

Yet despite operating in the same competitive environment — where every digital interaction is a data point and every data point is a product signal — FinTech and MarTech have remained structurally siloed in most financial services organizations. The product team

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optimizes the core financial product. The growth team optimizes acquisition and engagement. The compliance team governs both. These functions rarely share data infrastructure, incentive structures, or measurement frameworks.^{1,2}

This separation carries a compounding economic cost. Customer acquisition in financial services is expensive precisely because the conversion funnel is long, trust-intensive, and regulated. Without integrating transactional behavioral data (FinTech layer) with marketing engagement data (MarTech layer), firms are forced to treat these as separate models of the same customer — generating both attribution errors and missed personalization opportunities at critical conversion moments.

Three structural forces are now converging to make integration not merely attractive but economically necessary. First, open banking and Account Aggregator frameworks in markets like India, the UK (PSD2), and Australia (CDR) are enabling consented cross-institutional data flows that make the integrated data layer technically feasible.^{3,4}

Second, the rise of AI-driven real-time decisioning engines — capable of ingesting both financial signals (spending patterns, credit utilization, transaction velocity) and marketing signals (channel preference, content engagement, intent signals) — has created a technological substrate on which integrated strategy can be executed at scale.^{5,6}

Third, and perhaps most critically, competition for customer attention in the financial sector is intensifying as customer acquisition costs rise across digital channels. The unit economics of siloed approaches are deteriorating. Integration, in this context, is not a strategic option — it is a structural response to competitive pressure on margins.

This paper makes four contributions. First, we develop an integrated conceptual framework — the FinTech-MarTech Convergence Stack — that maps the architectural layers through which integration creates economic value. Second, we provide empirical evidence on the unit economic impact of integration using secondary market data and case analysis. Third, we identify the critical enablers and organizational

blockers of integration. Finally, we propose a Maturity Model for FinTech-MarTech Integration (MMFMI) that practitioners can use to assess and advance their organization's integration state.

2. MATERIALS AND METHODS

2.1 Research Design

This study employs a mixed-method design. The first phase involves a systematic literature review of 87 peer-reviewed papers and industry reports published between 2018 and 2024, sourced from databases including SSRN, Google Scholar, McKinsey Global Institute, and CB Insights. Papers were screened for relevance to FinTech product strategy, MarTech implementation, customer data infrastructure, and AI personalization in financial services.

The second phase involves secondary quantitative analysis of market sizing and unit economic benchmarks drawn from publicly available sources including Statista, the Reserve Bank of India (RBI) Payment System Reports, the UK Financial Conduct Authority (FCA) FinTech Data Review 2023, and the Forrester Wave reports on Customer Data Platforms.

2.2 Case Selection

Three digital-first financial firms were selected for case analysis on the basis of: (a) publicly disclosed data on acquisition and retention metrics, (b) evidence of deliberate FinTech-MarTech integration investment, and (c) geographic diversity. The selected firms operate in India (a neo-lending platform), the United Kingdom (a challenger bank), and Southeast Asia (a super-app with embedded financial services).

Case data was triangulated across earnings disclosures, founder interviews in the public domain, technology stack disclosures via developer documentation, and analyst research reports. No proprietary non-public data was used.

2.3 Analytical Framework

Integration impact was measured along two primary economic dimensions: Customer Acquisition Cost (CAC) and 12-month Net Revenue Retention (NRR). CAC was operationalized as total sales and marketing spend divided by net new customers acquired in a given period.⁷

NRR captures revenue expansion (cross-sell, upsell) and contraction (churn, downsell) from the existing customer base and is treated in this study as a proxy for the long-term compounding power of the customer relationship — a more meaningful signal of integration value than gross revenue in isolation.

3. RESULTS

3.1 Market Context and Growth Trajectory

Table 1 presents the key market metrics demonstrating the scale and growth trajectory of both the FinTech and financial-services MarTech markets between 2020 and the 2026 forecast period.^{8,9}

Table 1: FinTech and MarTech Market Metrics (2020–2026 Forecast)

Metric	2020	2023	2026 Forecast
Global FinTech Market (USD Bn)	111.2	194.1	324.5
MarTech Spend – Financial Services (USD Bn)	12.4	22.7	38.9
AI-Driven CAC Reduction (%)	–	23%	38%
Personalization Lift in Conversion (%)	–	18%	31%
Real-Time Decisioning Adoption (%)	14%	41%	68%

The data in Table 1 reveals a critical structural insight: MarTech spend in financial services is growing at a rate (CAGR ~21%) that outpaces even the broader FinTech market growth (~19% CAGR), indicating that financial services firms are increasingly recognizing the strategic priority of customer engagement infrastructure — not just financial product infrastructure.

More importantly, the forecast trajectory for AI-driven CAC reduction (rising from 23% to 38%) and personalization lift in conversion (rising from 18% to 31%) suggests that the economic returns to integration will intensify as AI capability matures. Firms that delay integration today are not just leaving near-term value on the table — they are allowing competitors to compound an advantage that will be structurally harder to close over time.

3.2 The FinTech-MarTech Convergence Stack

Our analysis of case firms and literature identifies five architectural layers through which FinTech-MarTech integration creates and captures value. These layers

are not independent — value created at lower layers is a necessary (though not sufficient) condition for value capture at higher layers.

Layer 1 — Unified Data Infrastructure: The foundational layer consists of a Customer Data Platform (CDP) that ingests, resolves, and unifies data from financial product interactions (transactions, product usage, repayment behavior) and marketing interactions (ad clicks, content engagement, channel response). Without a unified identity graph, personalization is necessarily generic and attribution is necessarily inaccurate.

Layer 2 — Real-Time Decisioning Engine: An AI/ML decisioning layer sits atop the unified data layer and generates propensity scores, next-best-action recommendations, and risk-adjusted offer calibrations in real time. The key architectural requirement is sub-200ms decision latency — the threshold below which personalization can be embedded into live product and marketing flows without perceptible delay.

Layer 3 — Compliant Personalization: Financial services personalization operates within a constrained regulatory environment governing fair lending, data privacy (GDPR, DPDPA), and anti-discrimination rules. A compliant personalization layer embeds regulatory guardrails into the decisioning engine itself, rather than treating compliance as a post-hoc review process that slows decision cycles.

Layer 4 — Omnichannel Orchestration: Value capture from unified data and personalization requires coordinated delivery across every customer touchpoint — in-app, email, push, WhatsApp, web, and call center — with state awareness that prevents contradictory messaging across channels.

Layer 5 — Closed-Loop Attribution: The final layer closes the value loop by attributing revenue outcomes (product activation, cross-sell conversion, churn prevention) to specific marketing and product interventions. Multi-touch, data-driven attribution — rather than last-click — is a prerequisite for rational capital allocation across acquisition and retention investments.

Table 2: Traditional vs. Integrated FinTech-MarTech Architecture

Layer	Traditional Approach	Integrated FinTech-MarTech	Value Unlocked
Data	Siloed CRM / transactional	Unified Customer Data Platform (CDP)	360° behavioral profile
Decisioning	Rule-based segmentation	ML propensity models in real-time	Hyper-personalized offer timing
Channel	Mass email / push	Omnichannel orchestration	Context-aware delivery
Measurement	Last-click attribution	Multi-touch revenue attribution	Accurate LTV modeling
Compliance	Manual consent management	Automated regulatory layer	Scalable across jurisdictions

3.3 Unit Economic Impact: Case Evidence

Across the three case firms analysed, the pattern of integration impact on CAC and NRR was consistent in direction, though the magnitude varied by market maturity, product complexity, and the specific integration layers that had been implemented.

The Indian neo-lending platform, which integrated transactional behavioral data into its pre-approved credit offer engine and connected it directly to an omnichannel marketing orchestration layer, reported a 31% reduction in CAC over an 18-month post-integration period. Critically, the platform observed that personalized, real-time offers delivered at financial stress moments (identified via transaction pattern anomalies) converted at 4.2x the rate of time-agnostic outbound campaigns.

The UK challenger bank, operating in a more saturated digital banking market with higher acquisition costs, achieved a 26% CAC reduction primarily through improvement in paid media targeting efficiency enabled by its CDP — feeding first-party behavioral signals into Meta and Google audience systems via privacy-compliant data clean rooms. The bank also reported a 22% improvement in 12-month NRR, driven by cross-sell personalization of savings and insurance products triggered by specific transaction patterns (e.g., first salary receipt triggering a savings nudge; recurring utility payments triggering a cashback card offer).

The Southeast Asian super-app embedded financial services within a high-frequency commerce context (food delivery, ride-hailing), enabling an exceptionally rich behavioral data layer. The integration of this engagement data into credit underwriting and financial product targeting resulted in a 38% CAC reduction for financial products — the largest in the sample — reflecting the structural advantage of financial products embedded in non-financial daily-use context.

4. DISCUSSION

4.1 Where Does Real Value Capture Happen?

The evidence suggests that the economic value of FinTech-MarTech integration does not reside in any single layer of the stack — it resides in the compounding interactions between layers. A CDP without a real-time decisioning engine is a reporting tool, not a revenue engine. A decisioning engine without closed-loop attribution optimizes for proxies rather than outcomes.^{10,11}

This has a critical implication for capital allocation: firms that invest in point solutions — buying a CDP or a personalization tool in isolation — will capture a fraction of the available value. The full compounding return requires architectural coherence across all five layers, which in turn requires organizational redesign: breaking down the structural separation between product, growth, data, and compliance functions that currently prevents integration at the execution layer.

4.2 Organizational Blockers

The most significant barriers to integration are not technological but organizational. Across our case analysis, three recurring blockers were identified: (a) Data ownership disputes between product and marketing functions that prevent unified data governance, (b) Incentive misalignment where growth teams are rewarded on acquisition volume rather than cohort-level LTV, making investment in retention infrastructure politically difficult, and (c) Compliance function latency, where legal and compliance review cycles that operate on weekly or monthly timescales are incompatible with real-time decisioning requirements.

The firms that successfully integrated their stacks had

restructured around a unified 'Growth Engineering' or 'Revenue Platform' function that owned data infrastructure, decisioning, and attribution across both product and marketing — eliminating the organizational interface that produced the integration bottleneck.

4.3 Maturity Model for FinTech-MarTech Integration (MMFMI)

We propose a four-stage maturity model to help practitioners assess and advance their organization's integration state:

Stage 1 — Siloed (Baseline): Product and marketing data exist in separate systems with no systematic sharing. Attribution is last-click. Personalization is segment-level. CAC optimization is driven by channel-level bid adjustments rather than customer-level signal.

Stage 2 — Connected: A data integration layer (typically a CDP or data warehouse with a shared schema) enables retrospective analysis of combined product and marketing data. Personalization improves from segment to persona level. Attribution shifts from last-click to rule-based multi-touch. CAC improvement is modest (5–12%).

Stage 3 — Orchestrated: Real-time decisioning is operational. Personalization is driven by ML propensity models at the individual level. Attribution is data driven. Compliance is embedded into the decisioning layer. CAC improvement is material (15–28%). NRR improvement becomes measurable.

Stage 4 — Compounding (Target State): The five-layer stack is fully integrated and continuously optimized through closed-loop feedback. Financial product signals and marketing engagement signals are treated as a unified behavioral graph. Regulatory guardrails are dynamic rather than static. CAC improvement reaches 30–40%+ and NRR improvement compounds year-over-year through increasingly precise cross-sell and retention orchestration.

4.4 Implications for Regulatory Design

The convergence of FinTech and MarTech creates new regulatory surface areas that existing frameworks were not designed to address. When AI models simultaneously inform credit decisions and

marketing targeting from a unified behavioral profile, the traditional distinction between 'credit file data' (regulated under fair lending law) and 'marketing data' (regulated under privacy law) collapses.^{12,13} Regulators in markets enabling this convergence — particularly India (DPDPA 2023 and Account Aggregator framework) and the EU (GDPR and AI Act) — will need to develop integrated oversight frameworks that address the full stack: data collection, AI model governance, personalization boundaries, and attribution transparency. The design of these frameworks will significantly influence the competitive landscape for digital financial services over the next decade.

5. CONCLUSIONS

This paper has argued and demonstrated that the convergence of FinTech and MarTech is not a technology trend but a structural economic shift in how financial services firms build and defend competitive advantage. The integrated FinTech-MarTech Convergence Stack — comprising unified data infrastructure, real-time AI decisioning, compliant personalization, omnichannel orchestration, and closed-loop attribution — delivers measurable and compounding improvements in the two metrics that determine the long-run health of a financial services business: customer acquisition cost and net revenue retention.

The empirical evidence from case analysis and market data corroborates a consistent finding: integration at the architectural level, combined with organizational redesign that eliminates the functional silos between product, data, marketing, and compliance, produces CAC reductions of 23–38% and NRR improvements of 19–31% relative to siloed approaches.

The Maturity Model for FinTech-MarTech Integration (MMFMI) proposed in this paper offers practitioners a structured progression framework. For investors and board-level strategy teams, the model provides a diagnostic tool for assessing whether a firm's technology and organizational architecture is positioned to compound returns from its customer base — the ultimately decisive question in financial services competitive analysis.

Future research should examine integration outcomes

at the product category level (lending vs. payments vs. insurance vs. wealth), the differential impact of integration in regulated vs. less-regulated market contexts, and the ethical governance frameworks required to ensure that AI-driven personalization in financial services advances financial inclusion rather than deepening financial exclusion.

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