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REVOLUTIONIZING THE DIGITAL LANDSCAPE: AN AI-FIRST AUTONOMOUS APPROACH TO MARKETING

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In today's data-driven marketing environment, several critical decisions—especially those centered around customer engagement strategies—still rely on intuition. This has led many digital marketers to adopt a "spray and pray" approach, where marketers indiscriminately target customer segments based on guesswork and intuition while neglecting data-driven insights.

The spray-and-pray approach leads the customer down a fragmented journey across their lifecycle, disrupting consistent engagement. This intuition-driven approach also increases the non-working marketing capital by around 60%—that amounts to 60 cents to a dollar which doesn't directly impact growth. Businesses stand a chance to optimize this spend when they choose to transform their decision-making through an AI-first approach.

To tackle this challenge, we introduce a reinforcement learning (RL)-based self-learning marketing system. In the following sections, we will dive into the design of this solution that helps it autonomously identify and activate the most effective marketing tactics. This approach will empower marketers to decide at scale while aiding businesses in maximizing the return on their marketing spend.

Understanding and Addressing Challenges

While navigating through today's dynamic digital landscape, marketers encounter unprecedented challenges. The surge of digital touchpoints and stringent privacy regulations have significantly limited the opportunities to engage with customers effectively. Therefore, traditional decision-making methods and tools are no longer adequate to navigate this complexity.

To thrive in this environment, marketers must adopt a new paradigm, i.e., autonomous marketing. By leveraging AI-powered systems, marketers can automate decision-making processes, experiment with various tactics, and learn from the outcomes to optimize their strategies. This shift is essential to ensure that marketing efforts are timely, targeted, and impactful.

Let's explore the specific challenges that marketers face and the potential solutions offered by autonomous marketing.

The Shrinking Window of Opportunity

The digital landscape is constantly evolving, shaped by two critical factors that influence and constrain a company's ability to activate customer intelligence at the edge, i.e., the digital touchpoints where customers interact with the brand.

The first factor is the sheer explosion of digital touchpoints now available to consumers. The large numbers enhance the brand's overall digital presence and increase the average number of customer interactions, but they can also shorten the customer's attention span at every touchpoint at any given moment.

The second factor is the increasing complexity of privacy regulations across different regions. In a Web 3.0 environment, tracking a customer's behavior is going to get harder without third-party cookies. Together, these factors reduce the opportunity for digital marketers to engage effectively at each touchpoint.
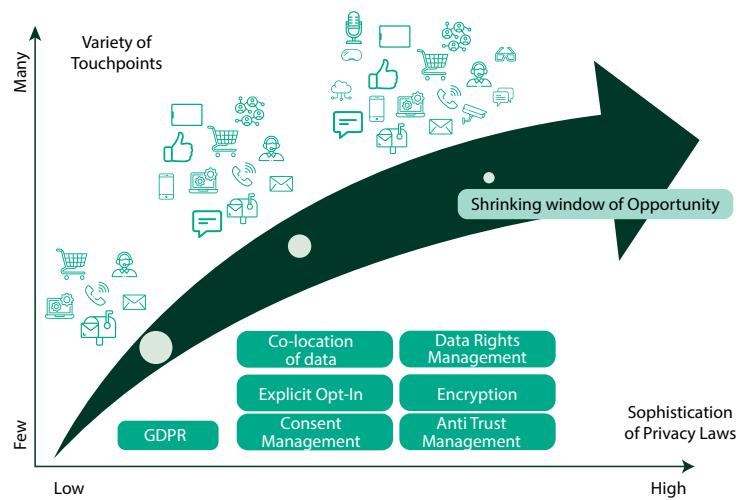

Image 1: The Shrinking Window of Opportunity

In the current situation, the ability to make swift and accurate decisions is paramount for marketers. With the rise of digital touchpoints and the narrow attention span of customers, marketers must be swift and precise, targeting and engaging customers by deploying the right tactics at the right touchpoints to evoke the desired action. Failing to do this increases the risk of losing their customers to the competition.

Traditional decision-making methods and tools such as the Decision Support Systems that once provided marketers with valuable insights are no longer sufficient in this evolving landscape. Their reliance on historical data alone may not effectively support the real-time needs of modern marketing.

The need of the hour is an AI-based autonomous system capable of delivering decisions at scale.

Paradigm Shifts in Marketing Technologies

Digital marketers of today have access to a wide array of data tools such as segmentation and propensity models to understand and categorize customer preferences, attribution models that

explain the tactics that lead to conversions, and performance metrics delivered through dashboards with KPIs to track progress. Yet, despite the application of these tools, marketers don't have visibility into whether the tactic they're about to activate is optimal for specific customers.

This gap in knowledge traces back to the lack of a methodical approach for experimenting with various tactics across touchpoints, product lines, and geographies, and then learning from the impact of these activations. Without this knowledge, marketers will not be able to make the most of their spend as the impact will continue to remain fragmented. Ultimately, the choice of tactics for each customer's context is still based on intuition and is not systemic (as explained in Image 2).
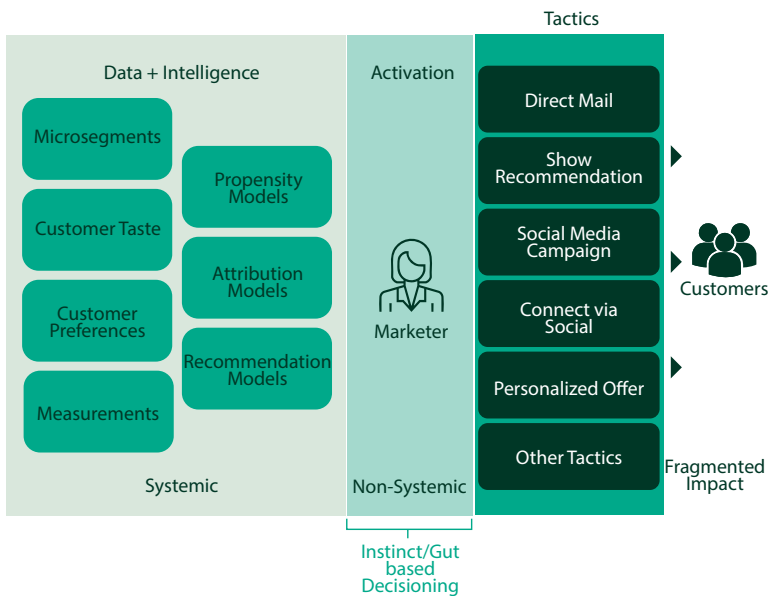

Image 2: Data-driven Marketing

In the complex new world, this traditional approach will not help marketers get the best returns from their spending or make decisions at scale. To overcome these, there is a need to transform the ecosystem into an autonomous one, where the following steps become more systemic:

1. Experimenting with different tactics.

2. Learning from the impact of each tactic.

3. Cementing the optimal tactic for various contexts.

The evolution of AI-enabled marketing

Before we delve deeper into the details of how marketers can accomplish this, there's another question that's likely to occur— how will this shift impact the role and responsibilities of the marketer? In this new paradigm, marketers will be responsible for designing the entire customer journey instead of relying on intuition to select different tactics. The designing task will include whitelisting specific tactics applicable to customers at relevant moments in their journey. The marketer will also be responsible for putting together the guardrails around customer privacy.

Essentially, the marketer's role will evolve from directly managing campaigns to defining the learning paths and boundaries for an autonomous system that will act on their behalf. This autonomous system is expected to be the marketer's AI-driven co-pilot that will enhance the marketer's holistic impact on the customer across touchpoints. Image 3 offers an overview of this shift, which we will explore in detail in the following section.
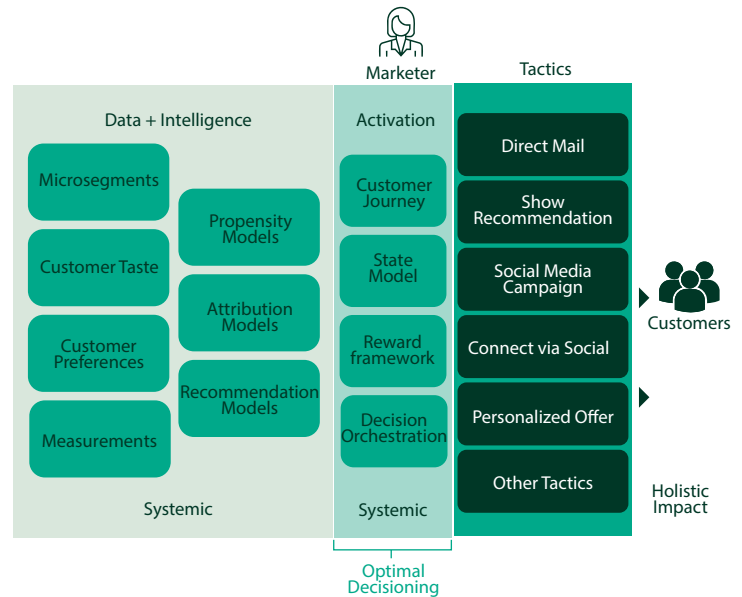

Image 3: Autonomous Marketing

Autonomous Marketing

Our AI-first approach involves modeling the marketing scenario as a mathematical problem that can be programmatically solved by leveraging data and AI. It starts with defining the customer journey as a customer state model. Once defined, this state model is then augmented with a reward framework. The rewards are relative i.e., each state is assigned a relative reward score. For instance, a more preferred "loyal" customer state is valued higher than a less preferred "*visitor*" state.

The second step involves further associating each customer state with a set of possible actions, i.e., specific marketing tactics that the system can deploy on the customer segment.

- **Process States**: The different stages of the customer journey are modeled as states with different reward scores.

- **Actions**: These are appropriate marketing tactics that the enterprise has at its disposal to engage the customer. These could include direct calls, quote emails, local ads, digital channel ads, etc., on their mobility products, dealer messaging, and individual connect needs. Importantly, taking no action can also be a valid action.

After defining the customer state model, we can deploy a reinforcement learning (RL) model to learn and experiment with different marketing tactics across various customer contexts to maximize rewards. A tactic is rewarded based on the number of customers it can transition to a better state. With time, this autonomous experiential learning is captured as a recommended

set of marketing tactics that can then be activated autonomously on different micro-segments across locations, product lines, and brands.

Let's unpack a real-world scenario where this approach was implemented.

Case Study: A Global Automotive Client

One of our clients is a global automobile manufacturer that manages a wide portfolio of brands and product lines, from entry-level segments to advanced electrified or hybrid cars, crossovers, SUVs, and trucks. Of their current spending of over $1.6 billion annually on advertisements that rely heavily on the marketer's intuition, 45% went towards local websites, media, call, or email channels, while the other 55% is spread across pan-region digital, social, and media channels.

Without the basic application of data and intelligence, their marketing strategy centered around targeting customers based on instincts, thus leading to fragmented customer journeys and experiences across the customer life cycle.

Infosys partnered with its marketing team to develop and implement the state model, the reward framework, and a set of actions aligned with the automotive customer journey (articulated in Image 4). Here's how it worked:

- Five broad customer states were identified—from visitor to loyal—with rewards increasing as they progressed.

- A collection of systemic actions (tactics or interventions that the automotive major can take with regard to the customer) were identified. These included connecting via social media, showing recommendations, sending a direct email, connecting via a dealer, formulating a local offer, and taking no action.

Infosys designed and implemented the RL model to experiment and learn autonomously from real customer data to arrive at a marketer policy. A marketer policy is the collection of optimal tactics for every customer and is derived from the systemic experimentation of tactics when activated on different customers over 5 years. This allowed the systematic identification of the most efficient marketing tactic contextualized for a customer segment and their state in the journey.

Post the deployment, we observed significant improvements in the size of the customer microsegment through the desired customer journey i.e., more visitors transitioning to the consideration phase, and new owners either becoming engaged or loyal. This further indicates that the AI-powered marketing solution had successfully identified and targeted high-potential customers, leading to a more efficient customer acquisition and retention strategy. For customers, this translates to a more personalized and relevant experience, ultimately resulting in greater satisfaction and loyalty.
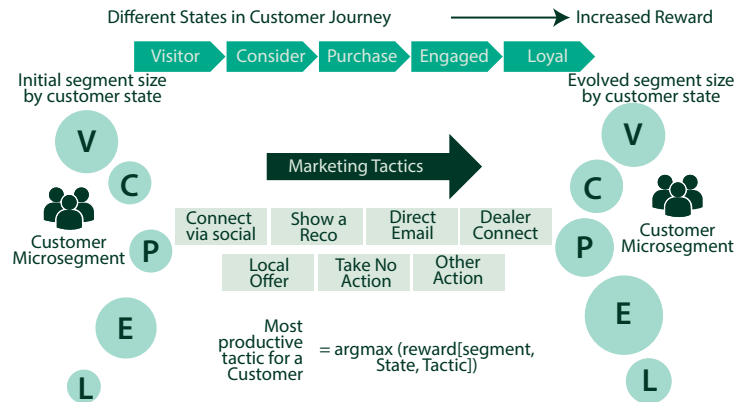

Image 4: Autonomous Marketing for the Large Automotive Major

The Future of Marketing

As brands navigate a complex digital landscape, opting for AI-powered, autonomous marketing solutions enables a major leap in personalization, precision, and efficiency. In the long run, with AI-powered marketing, enterprises can reap significant long-term benefits like enhanced marketing performance, optimized marketing efficiency, and personalized customer experience.

With the application of advanced reinforcement learning, companies can continuously optimize their tactics and enhance customer journeys in real time. This shift not only minimizes fragmented experiences but also enables marketers to leverage data-driven insights, transforming their role from campaign management to the careful cultivation of customer loyalty. The AI-first autonomous approach helps businesses sustain a profitable return on marketing investments and strengthen customer loyalty while remaining agile in an evolving digital ecosystem.

Authors

Lijo Joy, Infosys and **Ramaswami Mohandoss,** Infosys

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For more information, contact askus@infosys.com