Solution Brief

TigerGraph Connected Customer Platform for Retail Powers Marketing

HARNESSING RETAIL MARKETING AND DATA ACROSS THE ENTERPRISE

The global retail industry has weathered a pandemic, broken supply chains, labor shortages, and inflationary pressures, forcing the digital maturity of the entire ecosystem to accelerate. While some consumers' buying behaviors will revert to pre-pandemic patterns, McKinsey's most recent consumer sentiment study makes it clear that, in the US, omni-channel shopping trends are persistent. For an omni-channel consumer, having relevant, engaging, and personalized experiences is expected; for a retailer, providing seamless experiences for consumers across channels is both an imperative and a challenge.

Retail marketing has a vast responsibility to internal merchandising partners and business strategies. They must drive awareness, interest, and conversion across channels, and measure results. Retail marketers must make decisions that deliver to the business and drive meaningful omni-channel experiences for consumers. We all understand that data and analytics drive value, but for retail marketers, specific challenges exist.

1. Fragmented and bloated MarTech landscape
2. Quality and volume of data
3. Advanced machine learning.

THE MARTECH STACK IS OVERWHELMING

Retail does not suffer from a lack of data. However, a significant problem for retail marketing teams is access to and unification of the right data. It's hard enough in an enterprise to access silos of data, but the MarTech stack is overwhelming, with more than 8,000 tools in the market and an average 120 applications per enterprise, of which Gartner reports only 58% of capabilities utilized. Approaches to leveraging fragmented applications and connecting data are limited due to a conventional approach, causing organizations to lose out on driving full value from their data.

Marketers need to integrate the stack and connect the massive amounts of information necessary to deliver results. A key barrier to this is that applications store data in relational databases. Relational databases are good for storing in rows and columns, and for supporting transactions and performing basic analysis. But they're organized in separate tables (account, contact, lead, campaign, and opportunity), and aren't built to connect across tables or entities or to identify patterns based on relationships in the data. The data points are isolated and fixed in rigid datasets. Computational analysis must reach between these datasets in a clumsy and slow manner, which limits the complexity of the analysis that can be done.

A graph database structure is non-linear and stores data as relationships and networks. This allows for connecting data across applications without disruption in the architecture. A TigerGraph database natively stores the relationships about different types of nodes (objects) and edges (links), and makes queries about those relationships, easily. TigerGraph is the platform for a connected customer and data-centric marketing operation.
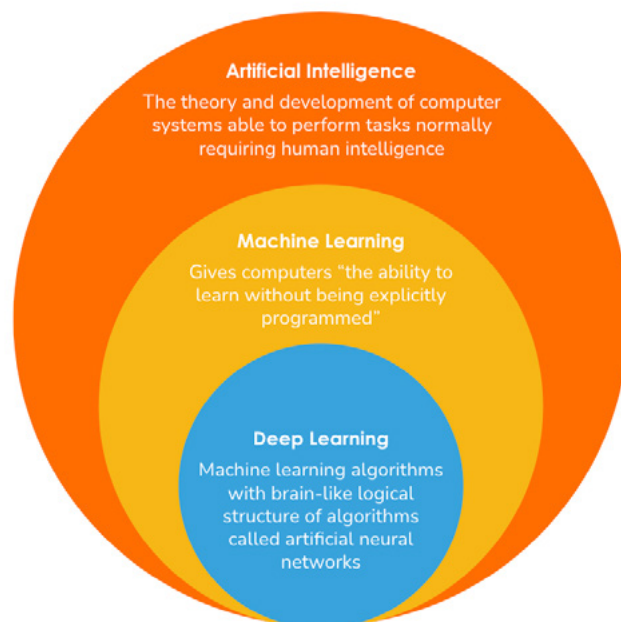
THE STATE OF DATA

Retailers have heaps of data. Defragmenting the marketing stack and unifying that data is key. Retail data is often siloed and inaccessible, a challenge for which TigerGraph is a solution. Our advanced AI and machine learning also benefits data preparation, which can be challenging. From inaccurate or missing data to fragmented entities, prep can be less than efficient. TigerGraph structures and stores data as interconnected relationships and networks and uses advanced AI and machine learning to improve accuracy and minimize quality issues by computing every data combination quickly and deeply, to understand the data holistically.

Embedding the power of deep insights to drive decisions and actions across the business is part of the digital imperative in retail. Another benefit of TigerGraph's advanced AI and machine learning is its ability to easily enrich and contextualize data. The speed and efficiency of advanced AI-driven analysis of enriched data coupled with the depth and relevance of insights is valuable to a dynamic and quickly changing industry landscape. Retail marketing organizations need the ability to seamlessly integrate a fragmented stack and data, and to benefit from efficient data preparation and deep contextual insight. As new channels develop and conditions continue to change dynamically, these challenges will compound. Only TigerGraph is uniquely positioned to serve retail marketing and enterprise needs.

ADVANCED MACHINE LEARNING FOR RETAIL

Analytics aren't new for retail organizations. As with everything, there are leaders and laggards, and analytics maturity across sub-sectors of retail, and geographies, is diverse. Since 2019, the adoption of AI and machine learning in retail has increased, and that trend is expected to continue. According to Juniper Research, retailers' annual spending on artificial intelligence will increase by 230% – from $3.6 billion in 2020 to $12 billion in 2023, which includes machine learning capabilities.

Large quantities of data do not generate any value by themselves. Machine learning automates the entire data analysis workflow to provide deeper, faster, and more comprehensive insights for business decisions. Advanced machine learning powers augmented analytics that, compared with traditional methods of statistical analysis, looks deeper into data and detects the subtlest interconnections between data points. While retail has increased adoption of AI and machine learning in recent years, the technology has evolved, and retail marketers can greatly benefit from advances in AI and machine learning analytics. TigerGraph-based features for machine learning algorithms are the most advanced in the industry.

Artificial Intelligence
The theory and development of computer systems able to perform tasks normally requiring human intelligence

Machine Learning
Gives computers "the ability to learn without being explicitly programmed"

Deep Learning
Machine learning algorithms with brain-like logical structure of algorithms called artificial neural networks

![TigerGraph logo]

TIGERGRAPH CONNECTED CUSTOMER PLATFORM FOR RETAIL

TigerGraph's Connected Customer Platform overcomes the challenges that retail marketers experience by connecting data and relationships and using advanced AI and machine learning to deliver optimized and real-time, contextual insights. TigerGraph supports retailers' omni-channel, personalization, and loyalty strategies, and pivots marketing to data centricity versus application centricity. Being able to create and nurture relationships and respond to and predict quickly changing demand is essential for meeting business goals, and delivering products, services, and experiences that customers want and need. Our use cases for retail marketers focus on key areas of value, including omni-channel, personalization, and loyalty, driven by advanced AI and machine learning.

CONNECTED CUSTOMER PLATFORM FOR RETAIL

TigerGraph's database is the foundation for data integration and connection, across disparate systems and data. Advanced AI and machine learning enrich the data and process large datasets in real-time, going deep for insights. Connected Customer Platform solutions are tailored to the challenges of retail.

- Seamlessly integrates and connects data across disparate systems and sources
- Enriches data quality
- Advanced machine learning and analytics drive deep insights
- Processes datasets in real-time.

OMNI-CHANNEL
Connected real-time data points across systems, channels, and engagements allow marketers to take a consumer centric approach in a demand-driven landscape.

- Customer journey analytics
- Attribution and campaign optimization.

PERSONALIZATION & LOYALTY
Blend online and offline data and build a progressive and programmatic approach to drive retention, CLV, AOV, and other key marketing metrics.

- Personalized recommendations
- Intelligent affinity
- Membership/subscription/loyalty program churn
- Advanced segmentation.

TigerGraph is the only solution for connecting vast quantities of data to deliver understanding in real-time. TigerGraph's native parallel graph technology is built to understand, explore, and analyze complex relationships, and goes 10 or more levels deep into the data, across all touchpoints. Only TigerGraph provides retail marketers with powerful insights and makes it easy to identify and leverage marketing, enterprise, and 3rd party data to drive business goals.

![TigerGraph logo]

For more information visit www.tigergraph.com and follow us at: Facebook Twitter LinkedIn | Contact us at sales@tigergraph.com