

# **IDC** MarketScape

# IDC MarketScape: Worldwide Retail Promotions Management 2024–2025 Vendor Assessment

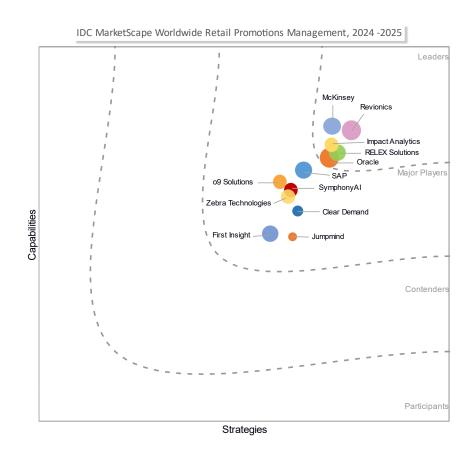
Ananda Chakravarty

#### THIS EXCERPT FEATURES REVIONICS AS A LEADER

#### **IDC MARKETSCAPE FIGURE**

#### FIGURE 1

## IDC MarketScape Worldwide Retail Promotions Management Vendor Assessment



Source: IDC, 2024

Please see the Appendix for detailed methodology, market definition, and scoring criteria.

#### ABOUT THIS EXCERPT

The content for this excerpt was taken directly from IDC MarketScape: Worldwide Retail Promotions Management 2024-2025 Vendor Assessment (Doc # US52038224).

#### **IDC OPINION**

Promotions management for retailers is central to retail strategy. Many retailers depend on a strong promotions program to reinforce merchandise sales, while others operate completely in a promotional atmosphere, replacing base pricing with promotional pricing. Even retailers focused on everyday low price (EDLP) strategies must leverage promotions as part of their overall engagement with customers. In IDC's 2024 *Global Retail Survey* conducted across 980 retail decision-makers, retailers' number 1 response to the top marketing and marketing mix priority areas was overwhelmingly "price." Over 30.7% of respondents identified committed budget or engagement to promotions optimization, campaign development, and distribution to drive customer experience and omni-channel commerce.

Across retail verticals, promotions play a strong part, even outside of pure revenue or profit-directed objectives. For instance, markdowns are common in the fashion retail sector, requiring promotions and discounted offers to move product, increase throughput, and avoid liquidation at fire sale price points. In the grocery sector, trade funds and product placement drive manufacturer rebates, coupons, and promotional offers. This IDC MarketScape will avoid trade funds or trade promotions management but will consider the capabilities necessary to manage supplier discounting on goods as part of overall promotions management. In DIY and club store retail, bulk, volume, and package discounting are regular items to manage. For convenience stores, the loyalty program discount with hyper-personalized fuel discount offers are commonplace factors when bringing customers from the fuel pump into the store.

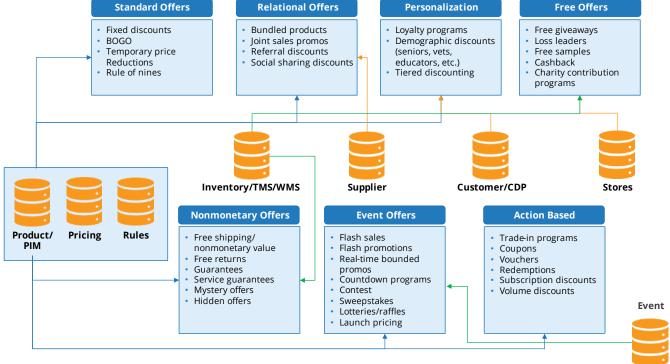
Retail depends heavily on promotions and operations related to promotion delivery, especially for price-focused consumers, including those who consider price as secondary. The allure of capturing a great deal, securing high value, and reducing overall costs is attractive to consumers and, in some cases, constitutes the entirety of their buying motivation.

Retailers must manage promotions across many complicated and, sometimes, mind-harrowing circumstances. The average grocery retailer runs up to 50,000 promotions annually across the hundreds of thousands of SKUs they sell in thousands of stores and

different demographic regions. Each promotion brings specific terms, business rules and constraints, discount terms and conditions, and stacking rules that can complicate the delivery of the promotion. The fashion retailer is looking to manage fewer but more significant promotions that will mean the difference between a warehouse full of excess clothing that needs liquidation and a profitable holiday season. Offer complexity encumbers management of promotions even further. Figure 2 outlines a sample set of the types of offers and data sets needed to build these promotions, which can become even more complex in real time. Retailers must make sense of, select, and apply promotions to their product assortments and understand how these promotions function and deliver additional revenue and profitability.

#### FIGURE 2

# Offer Complexity for Promotions Standard Offers R



Source: IDC, 2024

Part of promotion management is the planning cycle for promotions. Where various organizations rely on different planning methods to integrate with existing toolsets, IDC discovered some consistencies when engaging with retailers. During interviews with retailers using promotions in their operations, IDC asked how a promotion went from ideation to production and any post-production steps the retailer would engage in. Almost all retailers agree upon a universal fact: promotion development is iterative.

There was agreement on basic process adjustment from a baseline. Just as it would be difficult to launch a new store without knowing what merchandise to sell, promotions require up-front knowledge and test-and-learn experiences to establish a baseline. Retailers typically would resort to prior year promotional efforts, regardless of their origins. The planning cycle took retailers back to other planning methods, though not all retailers worked with generalized or top-level strategic plans or financial planning goals. The second step was driving specific outcomes and goals based on a set of promotions that are expected to perform. Some retailers leveraged competitive product price and promotion data, while others resorted to consumer demand forecasting tools to reveal what promotions mattered and where they would apply them. Sometimes, category managers and planners distributed promotions, while in other cases, the function was centralized to key promotions managers depending on the retailer and type of retail vertical. Several steps in between include analyzing, scenario planning, and selecting the promotions to drive and build these into an overlay promotion calendar holistically. Marketing is brought in to build promotion execution setups for online advertising and in-store marketing. Communications teams convey promotions details out to stores. Overlaid on top of early planned promotions were tactical promotions that are more spontaneous, responding to specific market events or aimed at boosting the performance of certain products mid-season.

Moreover, personalized and targeted promotions are driven by loyalty, coupon, and rebate programs. Many variations exist in the overall planning and execution of promotions, but there is typically post-promotion analysis, potential promotional lift, and accuracy checks with the tools used, including validation of the typical promotion engine recommendations. A typical promotion engine across most vendors would see a 5–6% lift in revenue across the product set, with high fluctuation and variation across different product groups, retail verticals, and specific retailers that employed different methods. The planning and execution process is complex but rewarding and usually worth the spend on effective tools built for purpose.

Beyond basic promotion management is promotion optimization, which we also examined for purposes of this IDC MarketScape. Many retailers still operate based on whimsy and guesses when assessing promotion performance, and most drive promotional calendars using historical data from the previous year or perhaps two years prior. Even with staple items or evergreen products in the store, promotions from a year ago may have unexpected effects today as demographics, price influence, and other factors change. Promotion optimization goes beyond management and is about designing ways to recommend, suggest, and identify opportunities based on data. When interviewing retailers for this IDC MarketScape, we asked about advanced capabilities that promotion vendors offered. These include demand forecasting Al, new methods to effectively build collaborative promotion calendars, deep data sets of product attributes to determine halo effects and potential cannibalization, and

competitive data. The optimization of promotions enables retailers to build on existing gains of their product sets and, over time, begin to map their promotion schedule to the actual buying patterns of consumers. Strategic goals for the retailers would drive the end state, whether it was sell-through, higher profits, or lower markdowns over time. Optimizing promotions allows retailers to move the needle with a dynamic customer base.

# **Promotion Planning and Management**

For promotions to work, promotion management systems must address several factors that matter to retail marketers, planners, and category managers. IDC describes promotion planning and management as supporting or making decisions that impact the initial selection, application, management, and execution of promotions. These include a wide range of promotion functionality. For this IDC MarketScape, we examined how promotion management tools would address the following:

- Volume: Promotion volume can extend to thousands of promotions, and marketers managing promotions must quickly understand the entirety of the volume set. Each promotion may relate to offers, creative, copy, online placements, offline placements, print, and communication to the stores.
- Bandwidth: Managing multiple real-time promotions can be challenging. While
  handling sequences of promotions across different product sets extends the
  challenge, promotion tools must support the simultaneous management of
  numerous promotions, types, and applications.
- Performance: Promotions must achieve specific goals. Sometimes, these goals are nonfinancial, such as sell-through or markdowns to drive turnover. However, promotion effects must be measured to manage in the first place. Future promotions and the effectiveness of metrics and overall performance will help drive decisions for purchasing, ongoing promotion usage, and taking nonperforming promotions off the calendar.
- Marketing coordination: Promotions work with other marketing initiatives for retailers, whether building the brand further or pushing goods from a specific supplier as part of an arranged deal. Promotion management requires a strong promotion calendar capability as part of an overlay or foundational events calendar for retailers beyond the spreadsheet. Coordination includes campaign management and differing distribution avenues such as email, SMS, print, broadcast, and CTV.
- Integration: Promotions tools must integrate directly into Martech systems, POS systems, and store operations tools. A promotion developed and rolled out needs distribution across hundreds or thousands of stores to impact demand

- shaping or behavioral change across many customers. Retailers must be able to automate some of the functionality to drive promotions and build value.
- Promotion rule structure: Promotions, especially coinciding ones across the same products, time frame, or adjacent products, must have specific rules, including stacking, uniqueness, qualification, and personalization. The rule set will define how stores process multiple promotions simultaneously and navigate the most appropriate outcomes for the retailer. Across thousands of promotions, retailer promotion management tools may responsibly enforce the rule structure through automation and data transfer to POS and communication systems.
- **Compliance:** The perfect promotion that drives another 10% of business doesn't matter if the retailer can't enforce it across the store network. Promotion management includes developing and delivering compliance and communication tools to ensure stores roll out banner ads appropriately on the website and place the endcap signage in the right place in the store.
- Price-promotion synergy: Promotions are a subset of pricing, base price, and future markdowns, and how pricing will change over time plays a big role in promotion management. Top promotion tools consider this and build the necessary algorithms to ensure successful promotion development in concert with pricing.
- Promotion repository: Promotion tools must assist in future decision-making and simplify ongoing promotions. This is especially important because most retailers rely on promotions from the previous year to set up the following year's data. A repository or library of promotions is an essential part of any promo management tool.

# **Promotion Optimization**

In concert with promotions management, we also have promotions optimization, which IDC evaluated as part of this MarketScape. For evaluation purposes, IDC examines promotions optimization as making or supporting decisions in selecting, applying, and improving ongoing promotions rather than their management or execution. Factors that play into optimization include the following:

- Self-healing rules engine: Promotion rules can rapidly grow to thousands of promotions, making it more challenging to apply them to new products or stores. Rules often conflict or break, or users override them without clarity. The next-generation rules engine will have self-healing capabilities that monitor, identify, and self-repair broken rules that no longer function or complicate retailer promotions.
- Promotion effects: Promotions have multiple effects. They can adversely affect overall sales or shift sales to unplanned categories or products. Promotion

effects can substantially influence inventory availability and overall sell-through of product sets.

- **Halo effect:** The halo effect refers to the impact of promotion, where promoting or adjusting the price of one product adversely affects the turnover or demand for other products.
- **Substitution effect:** The substitution effect occurs when promotion impacts customer behavior, causing them to switch to lower (or sometimes higher) cost brands when a price point changes or products are unavailable.
- Cannibalization effect: This effect refers to the promotion's impact on sales, which decreases for a retailer upon the introduction of new products, price lowering, temporary price reductions, regular discounting, or product availability.
- Pricing ladders effect: When businesses offer products at different quality levels, such as low, medium, and high, they provide customers with balanced price options. Accordingly, businesses can adjust this ladder to disrupt the pricing balance, causing an immediate shift in customer purchases either within one of the categories or toward substitute products outside of the ladder cohort.
- Bundled promotions: This effect refers to businesses driving sell-through through by bundling multiple products or pairing common or essential items with less essential ones to increase overall sales. This strategy may increase overall sales when some products in the bundle are available at discounted or partially discounted rates.
- Promotion dips/pantry loading: This promotion effect occurs when price reductions lead to bulk purchases by customers at discounted rates, followed by a period of decreased demand for the product.
- Multimodal optimization: Businesses can market promotions across various mediums and channels, including print, broadcast, and social media, to name a few. Multimodal application of promotions can impact overall demand and awareness of the promotion, and hence coupon redemption or purchases in the store or online. Optimizing across promotion marketing modalities can influence overall sales.
- Promotion spacing optimization: Businesses can space product promotions apart at various intervals to influence a retailer's optimal sales and promotion value. This can be especially effective for markdown optimization, as products are already on a clearance track.
- Promotion integrity: This refers to managing promotions relative to the marketing of specific promotions. An example might be preventing the offering

- of a Coke promotion at the same time as a Pepsi promotion. In many cases, businesses use rules to enforce promotion integrity.
- Automation promotion calendars: Specific capabilities such as promotion calendar automation are a subset of optimization, as AI/ML tools can completely design an entire seasonal promotional calendar across promotion time frames, promotion durations, promotion offers, categories, products, SKUs, stores, and clusters. After developing a baseline calendar, businesses can modify it based on specific needs and requests from category managers and planners.
- Promotion audiences: This is the practice of optimizing promotion targeting and promotion offers to specific audiences and cohorts to develop effective promotion outcomes. Optimization builds the right promotions for customers to drive purchasing to customer purchase limits, without abandoning a purchase.
- Promotion recommendations: This includes automating promotion selection but primarily links to developing promotions based on optimized parameters (across various parameters from weather conditions to store placement), where systems recommend promotions for specific products as businesses evaluate or build them into a promotion calendar.

# **IDC MARKETSCAPE VENDOR INCLUSION CRITERIA**

Vendors must comply with the following inclusion requirements to be considered for evaluation in this document:

- Delivers an established (client base) enterprise-grade solution in B2C promotion management or optimization
- Caters to multiple retail clients with \$500 million or more in annual revenue (client)
- Can enable established promotions and offer integration with retail POS systems and commerce tools
- Can support tier 1 retailers at a global scale across ecommerce, store, and other channels
- Has an established software/solutions vendor with a prominent/visible market presence
- Owns or licenses intellectual property for promotions management solutions

#### **ADVICE FOR TECHNOLOGY BUYERS**

Moving to a promotion management solution can yield a tremendous benefit for retailers, especially when shifting from simple spreadsheets or from a guess-based

starting point. However, keep in mind some of the following points to stay on top of a profitable and favorable promotion management and optimization path:

- Automation is crucial for a successful promotion management and optimization effort. Don't miss this capability for managing promotions, especially when your company might be dealing with thousands of promotions annually.
- Data must be ready to go in a centralized format. Promotion data is critical to the business, and accessibility to your product set, promotions run, and ongoing performance, including overall sales and profitability lift, are important to running successful promotions.
- Build a broad promotion strategy around your tool and its capabilities. You can
  try to shove your current processes into the new tool architecture and processes,
  but this can be more than challenging and can lead to customization costs.
  Instead, find ways to compromise between existing processes and your sparkling
  new promotion management tools.
- If you don't know your promotion history, you'll need to build up 12–18 months of promotions data before your system can adequately become viable. At least one season's worth of promotion performance data is the minimum to build valuable insight that can translate into subsequent year decisions.
- The technology can't be so sophisticated that you won't understand it. Start off with a crawl-walk-run model, or ask your vendor to help you develop one.
- Remember, the end goal is to deliver more meaningful promotions that drive overall business outcomes. Make sure you know the expected outcomes you want to achieve and start with low-hanging fruit, such as removing nonperforming promotions once you understand what constitutes a nonperforming promotion.

#### **VENDOR SUMMARY PROFILES**

This section briefly explains IDC's key observations resulting in a vendor's position in the IDC MarketScape. While IDC evaluates every vendor against each of the criteria outlined in the Appendix, the description summarizes each vendor's strengths and challenges.

## **Revionics**

After a thorough evaluation of the strategies and capabilities of Revionics, IDC has positioned the company in the Leaders category in this 2024–2025 IDC MarketScape for worldwide retail promotions management.

Aptos acquired Revionics in 2020 to support its merchandising and retail solutions group. The Revionics team was originally established in 2002 and specializes in price and promotions optimization and has developed sophisticated solutions over time to build a science-driven practice for price, promotions, and markdown optimization specific to retailers. The company has grown primarily through organic growth to become a well-known brand in the retail industry. The company applies AI and machine learning to predict promotion impact and captures product attributes to support decision-making in its promotions tools. Revionics is headquartered in Alpharetta, Georgia. In March 2020, Goldman Sachs acquired Revionics' parent organization, Aptos, though Revionics operates independently. Aptos is headquartered in Alpharetta, Georgia.

Most Revionics customers purchase baseline products such as base pricing and markdown optimization before graduating to more complicated promotions planning and optimization. Hence, there are strong synergies between pricing and promotions in the solution set, especially in accessing the same data sets.

## **Quick Facts**

- **Employees**: 160+ employees (Revionics), 1,300+ employees (Aptos)
- Global footprint: Operations in North America, Europe, Latin America, and Asia/Pacific (APAC)
- Tenure: Four years under the Aptos brand; 20+ years prior
- Retail focus: Retail-focused vendor, concentrating on grocery/mass merchants, convenience, and DIY stores
- Growth in promotions: Substantial and ongoing growth in revenue and customer base for promotion management and optimization tools
- Customer snapshot: Customers are evenly divided across tiers, with a
  considerable percentage in the \$1+ billion revenue range. Customers operate
  mostly in North America and Europe, with markedly high retention rates. Recent
  client wins in the Middle East and Africa reflect these regions as new growth
  markets for Revionics.
- Key promotion product: Promotion Planning and Optimization
- **R&D:** Revionics invests on the higher end in new, state-of-the-art technologies.

# Strengths

• Integrated and unified full life-cycle pricing: A key strength and capability for Revionics is evaluation of promotions in terms of existing pricing and price-promotion synergy. Revionics integrates all pricing solutions at a centralized point and user interface. Customers are able to make smart decisions and

- directly impact profitability at multiple points in the process, knowing how promotions might affect overall pricing.
- Strong forecasting and science capability: Revionics provides a financial forecast that builds affinity and cannibalization characteristics into its visuals. The tool also includes a promo health indicator that identifies impact to revenue and profit instantly. The tool shares affinity items instantly, and correlative products are quickly spotted. The tool is exceptional at computing and delivering on metrics, especially the overall impact of a promotion. Newer tool capabilities will expand optimization and recommendations to include additional types of promotions per its road map. Revionics can boast a strong science platform that provides multiple algorithmic options to optimize promotions.
- **Service Teams:** Revionics service is highly sought after with dedicated pricing strategists and an engaged feedback mechanism. The company places high value on customer feedback and uses customer inputs to deliver strong support services. The company aspires to be highly attentive to customer needs.

# Challenges

- Data Entry and Transparency: While Revionics has deep math and science capabilities, these can also be a hindrance to the uninitiated. For instance, entering data into the system and overall reporting capabilities are run of the mill and don't provide any additional flavor to their solution. The ability to drill down to item level can be challenging without understanding the system. There is sometimes also a lack of complete transparency in computational efforts, requiring data science expertise to attain the best optimization. Planned capabilities in self-service analytics and GenAI will address user-data interactions.
- Overlay and third-party integration: Revionics Promotions Planning and Optimization is designed for internal expansion first and foremost. Integration with third-party systems can be challenging, despite API-driven modules and modularity. Interpretation across existing systems and legacy systems can be a challenge requiring systems integrator support and additional technical debt.

#### **Consider Revionics When**

- The firm is seeking a strong tool for a heavy science lift to drive real optimization results across a wide spectrum of promotions. Ideally these would be completed in concert with existing deployments of base pricing and markdown optimization tools that Revionics offers.
- The firm is ready to move toward centralized data and AI-based optimization, or a decision has been made to shift from more primitive pricing models to tools that can handle complexity and volume.

#### **APPENDIX**

# Reading an IDC MarketScape Graph

For the purposes of this analysis, IDC divided potential key measures for success into two primary categories: capabilities and strategies.

Positioning on the y-axis reflects the vendor's current capabilities and menu of services and how well aligned the vendor is to customer needs. The capabilities category focuses on the capabilities of the company and product today, here and now. Under this category, IDC analysts will look at how well a vendor is building/delivering capabilities that enable it to execute its chosen strategy in the market.

Positioning on the x-axis, or strategies axis, indicates how well the vendor's future strategy aligns with what customers will require in three to five years. The strategies category focuses on high-level decisions and underlying assumptions about offerings, customer segments, and business and go-to-market plans for the next three to five years.

The size of the individual vendor markers in the IDC MarketScape represents the estimated or computed market share based on revenue, customer count, customer brand presence, and customer revenue of each individual vendor within the specific market segment being assessed.

An IDC MarketScape reaches many readers, including potential customers, experts, and investors. An IDC MarketScape assessment evaluates companies relatively using fixed criteria that an industry analyst sets across solution capabilities and strategic objectives. The exposure of the document is wide. Readers use the document to outline the state and direction of the companies evaluated, including their strengths and challenges. Companies with a strong presence in the field participate to influence the assessment. Companies that do not participate but maintain a substantial presence in the proposed market are evaluated based on internal interviews and publicly available information. There are limited costs except for information sharing through RFIs, the time required for briefing, and interviews with active referenced customers. However, companies do have the option to license excerpts or the document. IDC commands enormous attention from various CIO and CMO communities and Wall Street financial decision-makers. These highly regarded documents influence decision-making at the highest levels.

# **IDC MarketScape Methodology**

IDC MarketScape criteria selection, weightings, and vendor scores represent well-researched IDC judgment about the market and specific vendors. IDC analysts tailor the

range of standard characteristics by which vendors are measured through structured discussions, surveys, and interviews with market leaders, participants, and end users. Market weightings are based on user interviews, buyer surveys, and the input of IDC experts in each market. IDC analysts base individual vendor scores, and ultimately vendor positions on the IDC MarketScape, on detailed surveys and interviews with the vendors, publicly available information, and end-user experiences in an effort to provide an accurate and consistent assessment of each vendor's characteristics, behavior, and capability.

#### **Market Definition**

Promotions management tools are a subset of price optimization and focus specifically on managing, planning, and optimizing promotions, offers, discounts, and campaigns within existing operational constraints such as inventory availability, price considerations, and planning. Usually an integrated part of most retail systems, promotions management tools can shift promotions from a poorly utilized spreadsheet-based cost center to an effective, revenue-generating profit center. This IDC MarketScape will examine the capabilities of promotions management tools and solutions for the retail sector. The examined attributes will include functionality such as promotions calendars, promotion optimization given current market attributes, Al and data-driven promotions management, demand-shaping capabilities, item-level promotions management, scenario planning, promotion optimization precision, and resulting outcomes. IDC will consider AI and data management capabilities as well, but the focus will be on delivering a high-quality, data-driven promotions engine that successfully orients a retailer to minimize money left on the table and maximize gains from promotion efforts. The IDC MarketScape will cover promotions management, planning, and optimization as a standalone solution or integrated into a larger set or suite of products.

#### **LEARN MORE**

## **Related Research**

- IDC Retail Insights' Global Retail Survey, 2024: Findings and Implications (IDC #US51558623, November 2024)
- IDC MarketScape: Worldwide Retail Loyalty Software Providers 2024 Vendor Assessment (IDC #US51234024, June 2024)
- Expanding Marketing Promotions Across the "4-O Matrix" (IDC #US50878924, June 2024)

- IDC's Worldwide Digital Transformation Use Case Taxonomy, 2023: Experiential Retail (IDC #US50023223, August 2023)
- The Price of Loyalty: Incentives (IDC #US50805322, June 2023)
- Retail Forecasting The Value of the Crystal Ball (IDC #US49315523, March 2023)
- IDC MarketScape: Worldwide Retail Price Optimization Solutions 2023 Vendor Assessment (IDC #US49458922, March 2023)
- IDC PlanScape: Intelligent Retail Assortment Planning (IDC #US47779422, December 2022)
- IDC Innovators: AI Opportunities in Retail, 2022 (IDC #US42731417, September 2022)
- IDC Survey Spotlight: Autonomous Merchandising (IDC #US49316422, August 2022)
- IDC Survey Spotlight: AI and Merchandising (IDC #US49278722, June 2022)

# **Synopsis**

This IDC study assesses retail vendors offering promotion management solutions that help plan, manage, and optimize promotions. Promotions are a subset of price but tied to in-season and post-season engagement, including markdowns. We examine 12 vendors with various features and functionalities that enable retailers to improve promotions and drive revenue, profit, and strategic objectives. Promotion management is becoming more critical to retailers as tools, and software becomes more sophisticated with new value-add that can shift profitability by several hundred basis points. In this study, we avoid trade promotions but look at promotion planning, management, and optimization. For retailers leaving money on the table with their non-data-driven promotions, now there are tools and capabilities that will offer a much better view of promotion performance.

"Planning, managing, and then optimizing promotions is an iterative process. Why? Because retail customers are selecting, buying, and using our products. We need to change our incentives to act with our customers' ongoing changes to stay ahead of the curve," says Ananda "Andy" Chakravarty, VP of research, IDC Retail Insights.

#### **ABOUT IDC**

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications, and consumer technology markets. With more than 1,300 analysts worldwide, IDC offers global, regional, and local expertise on technology, IT benchmarking and sourcing, and industry opportunities and trends in over 110 countries. IDC's analysis and insight helps IT professionals, business executives, and the investment community to make fact-based technology decisions and to achieve their key business objectives. Founded in 1964, IDC is a wholly owned subsidiary of International Data Group (IDG, Inc.).

# **Global Headquarters**

140 Kendrick Street Building B Needham, MA 02494 USA 508.872.8200 Twitter: @IDC blogs.idc.com www.idc.com

#### Copyright and Trademark Notice

This IDC research document was published as part of an IDC continuous intelligence service, providing written research, analyst interactions, and web conference and conference event proceedings. Visit www.idc.com to learn more about IDC subscription and consulting services. To view a list of IDC offices worldwide, visit www.idc.com/about/worldwideoffices. Please contact IDC at customerservice@idc.com for information on additional copies, web rights, or applying the price of this document toward the purchase of an IDC service.

Copyright 2024 IDC. Reproduction is forbidden unless authorized. All rights reserved.