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Getting post-event analysis right

Seven core principles to drive trade promotion ROI

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Executive summary

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Most companies in the consumer packaged goods (CPG) sector want a post-event analysis (PEA) capability to help them understand the effectiveness of their trade promotion spending. Yet, as history would attest, this is an extremely difficult capability to implement. A large percentage of companies have no analytical function whatsoever; others apply a manual approach, building unique spreadsheets for individual events, which restricts their analysis to a handful of promotions and a minority of overall trade spending. A strategic PEA capability offers clear benefits, specifically a better ability to evaluate promotions quantitatively and determine the causal factors behind good — and bad — performance. Executed correctly, PEA can help companies increase the return on investment for their trade spending by as much as 10 percent, and these gains fall straight to the bottom line.

We have identified seven core principles for companies seeking to build a PEA capability: (1) understand the limitations of your source data; (2) automate the process wherever possible, primarily in amassing and integrating source data; (3) intervene with human insight when necessary, especially in order to eliminate data errors and correct models; (4) identify and account for one-time events, including "black swans," which can skew your analysis; (5) realize that a more accurate ROI calculation should be a starting point to improve performance; (6) embed the PEA capability throughout the organization; and (7) use the right tools, as most internal trade promotion management (TPM) software packages are not sufficient for many enterprises.

Implementing a PEA capability can be challenging for companies because the technologies are sophisticated and the data sets are often complex and unwieldy. However, this capability can create a clear competitive advantage by helping organizations improve their trade spend ROI and giving them critical insights into what really drives their business results.

Key highlights

- Trade promotion spending is a significant cost item in the consumer packaged goods sector — as much as 25 percent of gross sales — yet many companies do not routinely measure the ROI for their promotions and thus cannot analyze the effectiveness of these investments.

- A strategic PEA capability can help companies determine the performance of promotions and improve trade spending results, increasing the return on investment for their trade promotion spending by as much as 10 percent.

- The right PEA solution should strike a balance between automated functions that integrate and align complex source data, and human insights that allow business analysts to correct for data errors and other discrepancies.

- The information provided by a PEA system is not the end result of this process but rather a starting point for internal discussions on how best to improve trade promotion effectiveness. Accordingly, companies must undergo transformation initiatives to make the best use of the information that PEA yields.

A disconnect between investment and analysis

At many CPG companies, trade promotion spending — such as short-term price discounts, buy-one-get-one-free offers, and the like — accounts for as much as 25 percent of gross sales. This makes trade spending the second-largest item on the P&L, right after the cost of goods sold. Yet companies typically underleverage these investments, due to an inability to measure and improve the effectiveness of their trade spending.

There are several options for improving promotion effectiveness, such as reorienting funding structures to incentivize retailers and sales teams, allocating resources to more profitable products and customers, and improving retail execution. Yet for many companies, PEA is the single largest lever they can pull to improve the financial performance of trade promotions, with the potential to increase the return on investment from their trade promotion spend by as much as 10 percent. These gains fall straight to the bottom line, improving overall operating income.

PEA is not new — the concept has been around for at least 15 years — and virtually every CPG company understands the importance of measuring the performance of individual promotions against expectations in order to improve results. Yet many manufacturers cannot accurately and consistently differentiate between profitable promotions and underperforming events. They simply do not know how well their promotions are working, and why.

A surprisingly large number of CPG companies do not conduct any formal PEA. Instead, they tend to focus on volume increases, which can mask substantial inefficiencies. Others, especially at the early stage of this work, adopt a manual approach, building an individual spreadsheet for each promotion across the organization. (One company recently identified hundreds of spreadsheets that it had been using to manage, deploy, and analyze the results of trade spend.) This approach is so time-intensive and laborious that it creates a dilemma for organizations — they can either use brute force and throw resources at the problem, or limit their analysis to a minority of their promotions each year. (*See "PEA in Action," page 13*.)

Overall, the disconnect between the scope of investment on promotions and the lack of comprehensive analysis leaves management effectively flying blind, planning a strategy for trade events using little more than intuition and experience.

A PEA capability addresses this shortcoming. Implemented correctly, it can integrate the predicted performance of a given promotion with actual shipment, spending, and consumption information to provide clear feedback on the actual performance and effectiveness of the event. As a result, marketing and sales leaders can identify the specific factors that drive positive or negative results, allowing them to more accurately target future promotions by account, category, and geography. PEA can also identify unprofitable promotions, and improve customer dialogues with fact-based analysis.

In our experience, a strategic capability in PEA incorporates several common elements: consistency, process discipline, analytical tools, and the right level of automation.
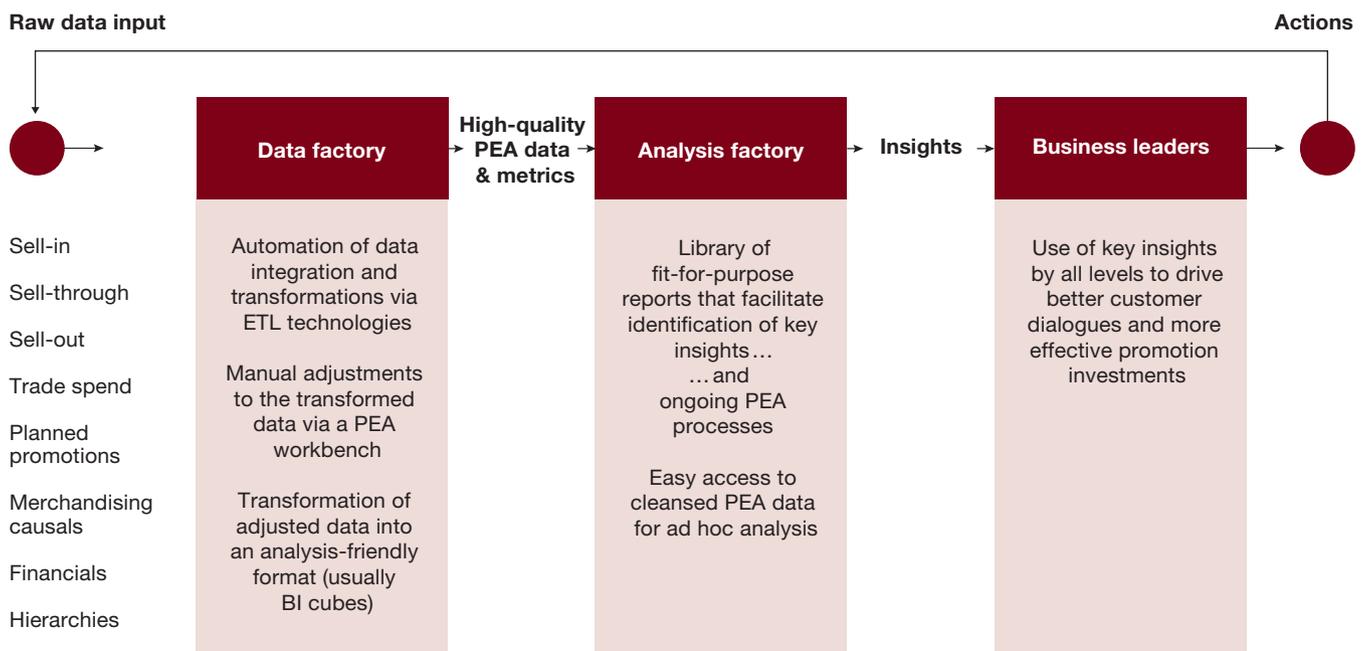
A PEA capability can provide clear feedback on the actual performance and effectiveness of the event.

Seven core principles

A strategic PEA capability can be thought of as two conceptual halves — a "data factory" that transforms raw data on individual promotions into reliable promotion metrics, and an "analysis factory" that can generate insights from those results in order to improve promotion ROI (*see Exhibit 1*). Both are critical.

Based on our experience, we have identified seven core principles that companies must apply in developing this capability.

Exhibit 1
The process for successful PEA

Raw data input   **Actions**

|	**Data factory**	High-quality PEA data & metrics	**Analysis factory**	Insights	**Business leaders**	
Sell-in	Automation of data integration and transformations via ETL technologies		Library of fit-for-purpose reports that facilitate identification of key insights…		Use of key insights by all levels to drive better customer dialogues and more effective promotion investments	
Sell-through			…and ongoing PEA processes			
Sell-out	Manual adjustments to the transformed data via a PEA workbench					
Trade spend			Easy access to cleansed PEA data for ad hoc analysis			
Planned promotions	Transformation of adjusted data into an analysis-friendly format (usually BI cubes)					
Merchandising causals						
Financials						
Hierarchies						

Source: Strategy&

1. Understand the limitations of your source data.

Successful PEA requires integrating large, diverse data sets from multiple sources, including market data, internal databases, and manual loads of other internal data. All of these sources have inherent limitations and errors (*see Exhibit 2*). This is especially true regarding TPM data. A large company may have several hundred employees using its TPM system, leading to a strong likelihood of data-entry errors, with the probability and severity of errors growing in line with the size of the organization and the complexity of input. It is unrealistic to assume that dozens of employees — especially time-squeezed key account managers — can continuously maintain error-free promotional data. Syndicated data from third-party providers is potentially cleaner but also contains errors, such as missing causals or inaccurate base-incremental splits.

The key learning from this insight is to build a PEA system that is flexible enough to deal with significant and ongoing limitations in source data. Among other things, it must include mechanisms to intervene and override source data on a case-by-case basis when needed.

Exhibit 2
Common errors in source data
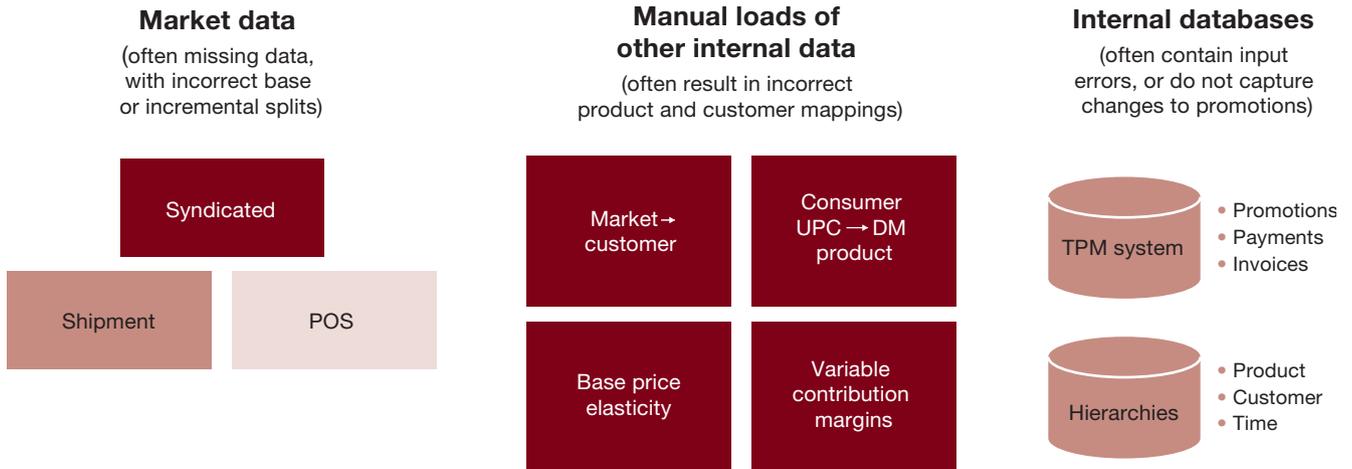
Source: Strategy&

2. Automate the process wherever possible, particularly the data integration phase.

As noted above, many companies at an early stage of their PEA process adopt a manual approach, building an individual spreadsheet for each promotion. Such an approach requires minimal investment and is a good way to learn how the process works. Some companies even assemble small teams of five to 10 people who focus on PEA. However, manual PEA is not generally sustainable — it entails a tremendous amount of rote data manipulation and other mechanistic work that is often unappealing to highly educated corporate employees. This approach increases the potential for errors, and it allows the company to focus only on select accounts and products.

In fact, a large part of the process can and should be automated. This is a significant component of the data factory aspect, which integrates raw source data and generates baseline results. Within the data factory, companies can automate processes such as pulling data from source systems, translating disparate customer and product identities to a common, comparable code, and doing bill of materials explosions (if necessary).

3. Intervene with human insight when necessary during the data factory phase to calibrate source data, models, and outputs.

Conversely, there is a real risk of relying too heavily on automation, especially during the data factory phase. In fact, many companies spend millions to implement sophisticated PEA systems that can put the entire data integration and manipulation process on autopilot. Such systems often generate reports that are littered with obvious inaccuracies and errors. Worse, it is nearly impossible to tell whether the remaining data (information that is not obviously wrong) is accurate or inaccurate.

For example, it is not uncommon to hear that a company's PEA system is showing ROIs of -100 percent for a third of its promotions or more. That output is clearly wrong. Typically, such results stem from a failure of the "automation" to match likely incorrect promotion data with the incremental volume it produced. Just as it is impractical to expect hundreds of field-staff employees to maintain perfect promotional data in the company's TPM system, it is equally impractical to expect a computer program — no matter how sophisticated — to be able to correctly identify every case of erroneous source data and correctly adjust for it. In addition, there are often variable and complex factors — outside of data errors — that significantly impact the results of individual promotions. In these cases, automated software applications

cannot possibly understand the business context, and thus will not be able to accurately identify what happened or apply the appropriate corrections to the data.

A ready example of the need to balance systems automation and human insight is in the association of sales volume to the promotion itself. On a substantial number of events, key data — such as the products being promoted, or the dates of the event — is wrong. Some of these errors are due to data entry. In other cases, retailers may run the promotion a week early, or a week late. Companies cannot simply automate their way out of this problem; in practice, a fully automated process cannot accurately identify, diagnose, and correct every possible case of misaligned data. Instead, a set of "intelligent operators" will have to intervene to ensure that the data factory is producing accurate and coherently integrated results.

Building an effective PEA system requires striking a middle ground that optimizes both your labor and technology assets. This involves automating as much of the process as possible — such as high-volume data integration and algorithm components — while still allowing for human insight in order to correct errors in source data and provide a reality check on results.

4. Identify and account for one-time events such as black swans, which can introduce false causalities into your output.

A related principle applies to calibrating PEA data to account for one-time events. Unanticipated black swan events can throw a wrench into the standard PEA process. For example, product recalls, meteorological events, or major regional or national events — such as 9/11 or the oil spill in the Gulf of Mexico — can significantly hurt the performance of promotions.

Failing to identify these external factors and their impact on promotion performance can cloud the company's analysis. As with data errors, the solution is a system that is flexible enough to allow you to intervene and account for these events — requiring custom corrections in each case — so that artificial results don't alter the company's strategy regarding future promotions.

5. Realize that a more accurate ROI calculation for individual events should be the beginning of the process, not the end goal.

Though the technology behind PEA algorithms can lend an air of definitive science to PEA reports, the results themselves are merely a starting point. Simply issuing PEA reports will not drive the changes required to fundamentally improve trade operations. To that end, PEA reports should foster internal dialogue among key stakeholders in order to better understand what is driving the business and how to improve the effectiveness of future promotions. This process requires the analysts to dig into the data and identify both positive and negative causal variables and their relative impact.

Moreover, this conversation should expand beyond the account management function to incorporate sales, marketing, brand management, and even retailers in order to establish a consensus on the business drivers for individual products and categories. More comprehensive communication will lead not only to a deeper understanding of the forces shaping your trade promotion results but also to a more team-oriented approach, in which individual departments share a common goal of maximizing the effectiveness of the trade spend.

6. Embed the PEA capability within the organization.

PEA will generate actionable information, but ultimately the company must take action by redefining the appropriate processes and organizational considerations to utilize the insights from individual promotions. These activities include, among others, coordinating across accounts, analyzing tactics, and identifying and reviewing nuances specific to the event or trade programs in general.

In addition, the company should construct a team composed of members from all key disciplines related to trade, including (but not limited to) representatives from sales, trade marketing, brand management, demand planning, and finance. At the same time, a formalized review and reporting structure should be established to ensure that the analysis and reporting are consistent, accurate, and distributed to key decision makers at all levels.

Finally, companies should acknowledge that PEA is a discretionary activity — organizations can function without it, but they are more effective with it. Embedding this capability in the organization via processes, people, and systems ensures that PEA will not be sidelined when something seemingly more urgent appears and requires critical resources.

7. Use the right tools.

Due to the widespread interest in PEA, many TPM software vendors purport to offer PEA solutions. These vendors typically do not have a foundation in business intelligence (BI) technologies, and in our view, their claims for these solutions are often optimistic at best. In general, they offer only a superficial layer of PEA reporting, without the data factory component that is crucial for delivering meaningful insights, yet so difficult to get right.

A PEA system is really a specific application of BI technologies. As such, most companies choose to implement PEA systems in their BI environment using their corporate BI and extract, transfer, and load (ETL) technologies. We believe this is the right way to think about PEA, and the right set of tools with which to build PEA systems.
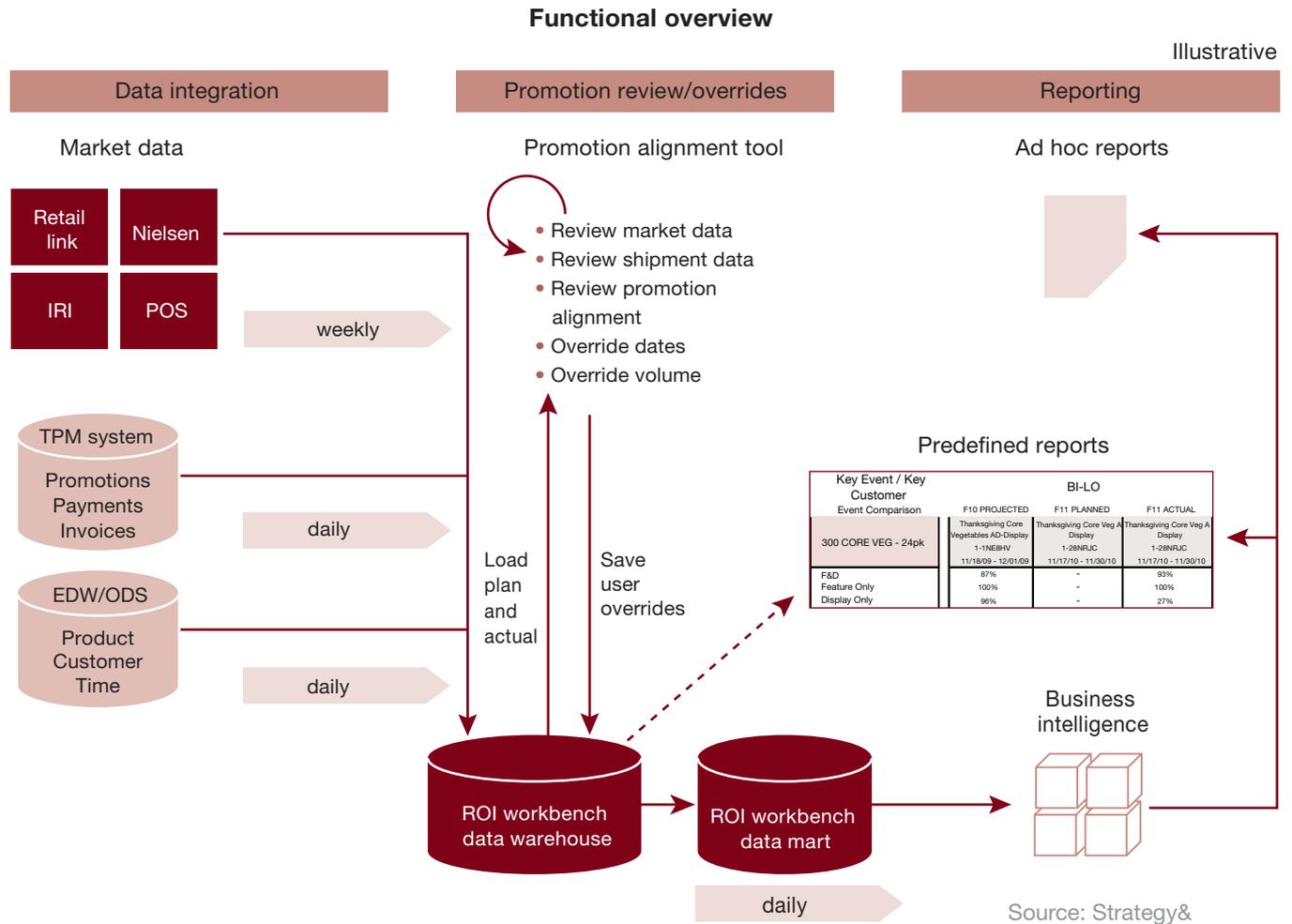
PEA in action

Until recently, a global CPG company conducted its PEA entirely with manual spreadsheets, which it created through brute force once a year as part of its annual reporting cycle. The sales finance team of five — all highly educated people — had extremely low morale, as they were forced to do rote data manipulation in high volume. As a result, the company could analyze only a small minority of the promotions it ran each year, and it had little insight into the ROI for the rest of its portfolio.

To build a more effective PEA capability, the company tailored an ROI workbench for its specific requirements. The workbench is a set of standard

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Exhibit A
The ROI workbench

Functional overview

Illustrative

| Data integration | Promotion review/overrides | Reporting |

Market data — Promotion alignment tool — Ad hoc reports

Retail link · Nielsen · IRI · POS — weekly

- Review market data
- Review shipment data
- Review promotion alignment
- Override dates
- Override volume

TPM system — Promotions Payments Invoices — daily

EDW/ODS — Product Customer Time — daily

Load plan and actual · Save user overrides

ROI workbench data warehouse → ROI workbench data mart → Business intelligence

daily

Predefined reports

Key Event / Key Customer Event Comparison	BI-LO		
	F10 PROJECTED	F11 PLANNED	F11 ACTUAL
300 CORE VEG - 24pk	Thanksgiving Core Vegetables AD-Display 1-1NE8HV 11/18/09 - 12/01/09	Thanksgiving Core Veg A Display 1-28NRJC 11/17/10 - 11/30/10	Thanksgiving Core Veg A Display 1-28NRJC 11/17/10 - 11/30/10
F&D	87%	-	93%
Feature Only	100%	-	100%
Display Only	96%	-	27%

Source: Strategy&

tools — such as data integration and standard calculations — along with customizable elements to accommodate the company's product and promotion structures. Collectively, this workbench meshes with the company's existing internal TPM system and business intelligence system (*see Exhibit A*).

A key objective was to automate as much of the data manipulation as possible. To that end, the workbench aggregates data from multiple sources (including point-of-sale information, syndicated data from third parties, the company's TPM system, and its internal data warehouse). The workbench aligns this data to consistent parameters and associates actual shipment and consumption information to specific promotions. It also automates standard functions such as the calculation of base/incremental splits for POS data.

Significantly, the new system includes an override element to allow the company — at its discretion — to manually correct for errors in the data, one-time events, or other external factors that can throw off the analysis. Elements that can be overridden in this way include shipment dates, performance data, actual base and incremental volumes, and others. Finally, the workbench runs this data through a business intelligence system to generate performance reports on individual promotions.

Implementation began in the middle of fiscal year 2012 and took about nine months. Since the workbench became fully operational, the company has doubled the number of promotion events it is able to analyze — from 2,500 in fiscal 2011 to 5,000 in 2012. It increased its percentage of trade spend analyzed from about 60 percent (with no everyday low-price analysis, or EDLP) to about 80 percent with EDLP, and its number of retail customers from 25 to 40, or most of those that offer source sales data. The PEA capability has already generated clear savings by identifying low-performing events that the company was able to cut, and higher ROI for the remaining portfolio.

In all, the company freed itself from a laborious, cumbersome spreadsheet process and implemented an approach that allows it to cover far more of its business with the same amount of resources. As a result, the sales finance team was no longer stuck doing rote data manipulation and instead could focus on strategy and implications. That not only improved morale within the division but also led to markedly better promotion performance.

Conclusion

At a time when technology informs a large number of business decisions, it is surprising that many CPG companies continue to make large investments on trade promotions without a solid understanding of the effectiveness or value generated by those investments. A strong post-event analysis capability can address this shortcoming. Implemented correctly, such a capability allows companies to better assess profitability and individual events, driving top-line sales and operating income. The ideal solution balances advanced technology with human insight by automating much of the data integration and calibration but allowing for manual overrides when necessary. The result is greater ROI on individual events and a more coherent approach to trade promotion spending overall.

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