The Modern Marketing Dashboard: Back to the Future

THE AUTHORS

Koen Pauwels
Distinguished Professor of Marketing and Co-Founder of the DATA Initiative
D'Amore-McKim School of Business at Northeastern University, Boston

David J. Reibstein
The William S. Woodside Professor and Professor of Marketing
The Wharton School, University of Pennsylvania, Philadelphia

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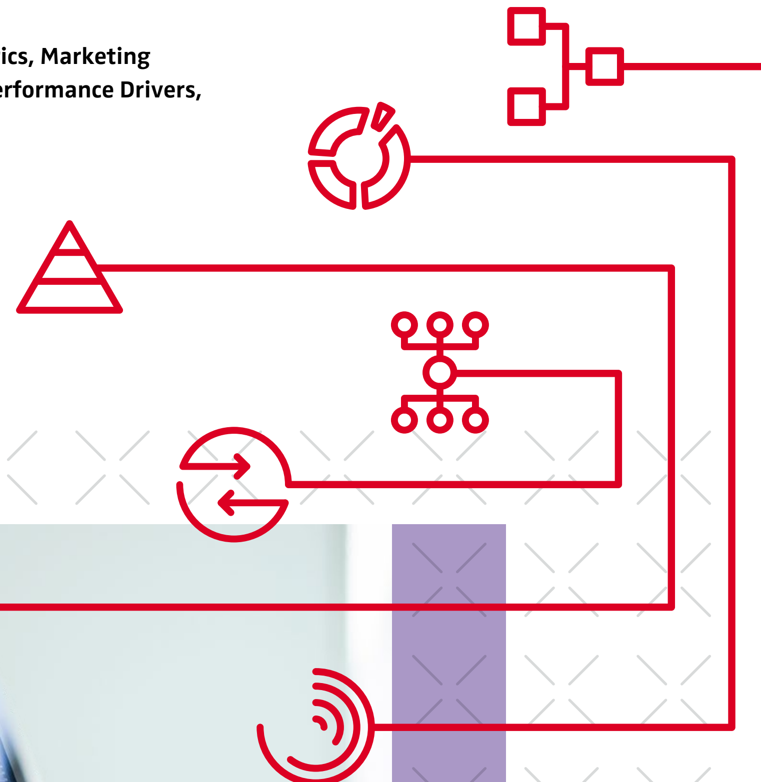

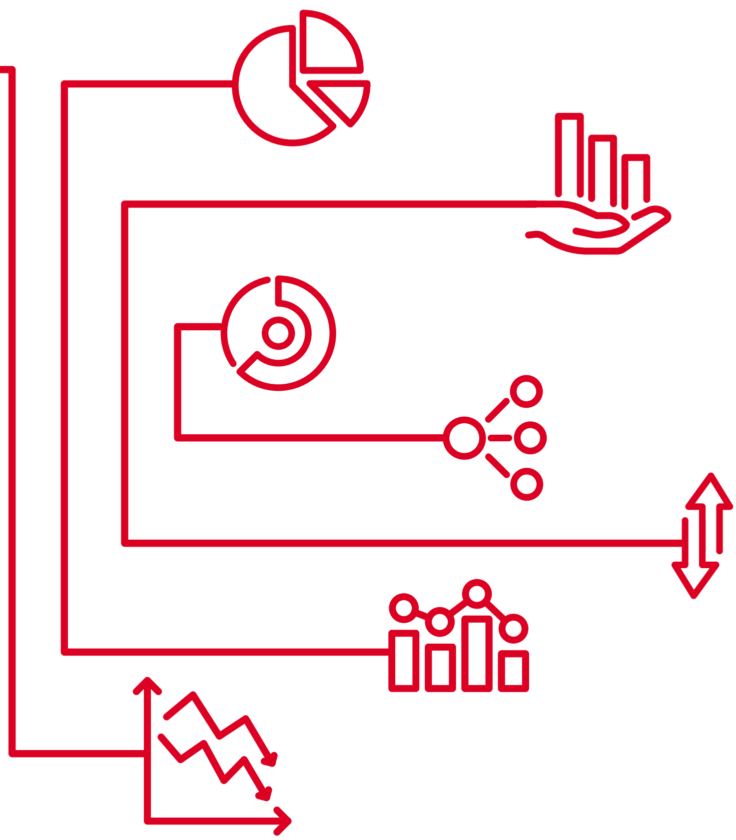

Something old mixed in with something new × After two decades of designing, teaching, using and writing about marketing dashboards, the current discussions around them feel to us like "back to the future." What is familiar is the never-ending quest of business and marketing practitioners for a relatively small collection of interconnected key performance metrics and underlying performance drivers reflecting both short- and long-term interests throughout the organization. An effective dashboard integrates data, processes and viewpoints to show what happened, why it happened and what could happen with the right remedial action. It serves as a communication tool for what is important to the organization and helps to align all parties to the right objectives. It also serves as an aid in decision-making and goal attainment and the pathway to get there.

From the Balanced Scorecard to Tesla-style control × A very useful tool, the Balanced Scorecard, was first introduced in 1992 in a seminal article by Kaplan and Norton. It offers a means of tracking what has been accomplished and, as suggested by the name, it allows for detecting where the business might be misallocating its resources and not covering all bases. Nearly a decade later, a relevant sequel emerged – the marketing dashboard. This metaphor of a car's dashboard allows one to see what has been accomplished in the past, like an odometer showing distance traveled, along with current status, comparable to a speedometer. Car dashboards have advanced over the past 20 years, now able to look into the future based on knowledge attained over the course of travel. This comes in the form of forecasting the number of miles/kilometers remaining in the tank and expected arrival time based on historical driving behavior as well as suggested routes avoiding traffic to best maximize the objective of arriving at one's destination.

The same evolution has happened with the dashboard of the future – a report on how we have performed, forecasts of what will transpire into the future and even recommen-

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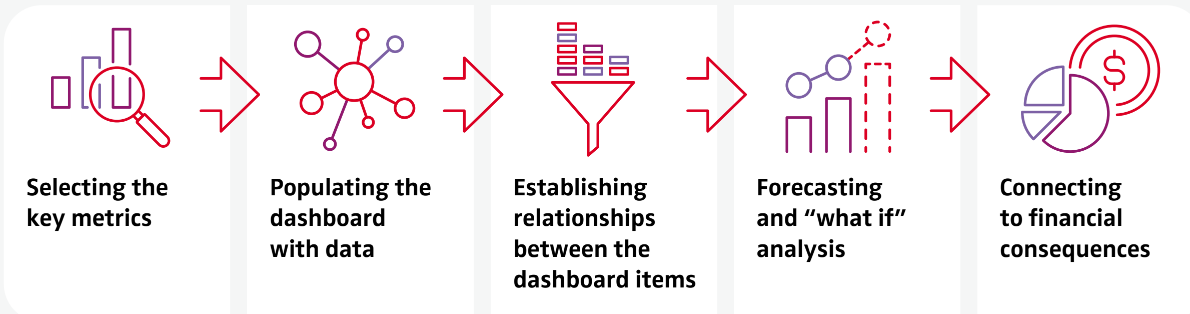
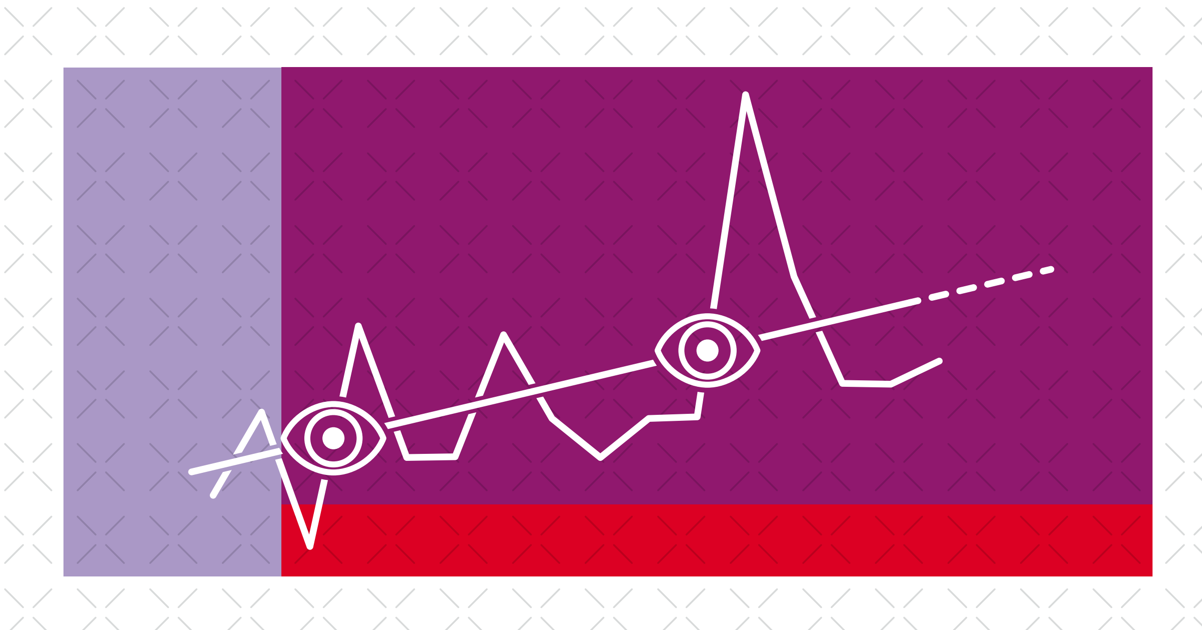
FIGURE 1 > Stages of dashboard development



dations for behavior that would maximize businesses' key performance metrics. With the advent of AI and machine learning, the ability of the dashboard of the future to anticipate the results of alternative spending patterns will continue to enhance its predictive ability. Similar to self-driving cars, we still need somebody in the driver's seat, but the level of decision support will be unprecedented.

Key stages for dashboard development × Independent of available technologies, both failures and successes across continents reinforce the importance of each of the five stages of dashboard development. These key stages remain the same for the dashboard of the future as they were for the past. They are presented in Figure 1 and discussed in the next sections. The last three steps, which establish the interconnection of the metrics and forecasting based on the underlying models, distinguish a dashboard from a scorecard and make it a much-enhanced tool to support marketing decision-making.

> **Selecting the right dashboard metrics** × A rich research stream shows how managers select and use dashboard metrics across regions, industries and functional areas.
Time series analysis has shed light on which metrics might be more useful than others. To avoid overloading dashboards, metrics that show little variation over time, are too volatile to be reliable, add little explanatory power to existing metrics or are not leading indicators of financial results are best deleted. The metrics left standing are leading key performance indicators (KPIs) and their selection helps managers make better decisions.
Of key interest to market researchers is that survey-based attitude metrics move slower than sales and may not be in sync with the other metrics in the dashboard. Online consumer behavior metrics of paid, owned and earned media move faster and are a forebearer of what is to come. Also, online behavioral metrics explain sales more in the short run of a week, while survey-based attitude metrics tend to predict sales better in the longer run over several months. In this issue, Ofer Minz (p. 18) discusses what metrics from across financial and non-financial marketing measures best blend for decision-making across the array of marketing decisions.
Further, and not surprisingly, new metrics have entered the scene. With the dramatic shift to online sales, new metrics capturing the dynamics are essential. It is hard to generate sales without a means of putting the product in front of the customers. The emergence of retail media has increased the importance of online distribution metrics, as more consumers start their product searches on Amazon than on Google (Ailawadi and Farris, p. 24). In the light of the current challenges our societies face, ESG-related metrics gain more relevance for consumers and investors, as CB Bhattacharya and his co-author argue in their article (p. 32). And Fournier and Srinivasan discuss brand reputation risk as an emerging threat to organizations, particularly in fast-moving polarized societies, and suggest new



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metrics for a brand reputation risk dashboard (p. 46). Zürn and colleagues present a new metric to measure a company's purpose beyond profit (p. 54).

> **Populating the dashboard with data** × It is tempting to put in a dashboard the data you already have rather than first identifying what the business objectives are. But you need to make sure you have the right metrics that capture the relationships driving these objectives. In other words, it is necessary to measure what you need rather than to merely use what you have.

Whether this is driven from the top or generated from the bottom, there needs to be a collective effort across the marketing organization and those directly affected. For old and new metrics, the improved measurement is new, and democratization of dashboards – ensuring digital literacy at all levels of the organization – is an additional challenge. On the measurement front, new methods were developed and applied to overcome challenges and provide missing information. Empirical generalizations on wear-in and wear-out effects are emerging for both traditional and digital media, allowing insights on short- and long-term effects. As noted earlier, one of the key challenges is the periodicity of the data; that is, not all data will be covering the same period. For example, we might have bi-weekly sales data, daily clickstream data, quarterly attitudinal data, etc. One of the challenges is recognizing that not all of the data moves at the same rate, meaning that trying to connect the causal relationships becomes more difficult.

> **Establishing relationships between dashboard items** × Rather than having an unrelated set of metrics sitting in a dashboard, it is desirable that the dashboard of the future be able to assess how the metrics are interrelated. It is already much easier to investigate causal relationships among the selected metrics. Randomized Control Trials (RCTs) have come a long way in establishing causality. These trials generally come in the form of an A/B test in which a marketing activity (e.g., adding salespeople

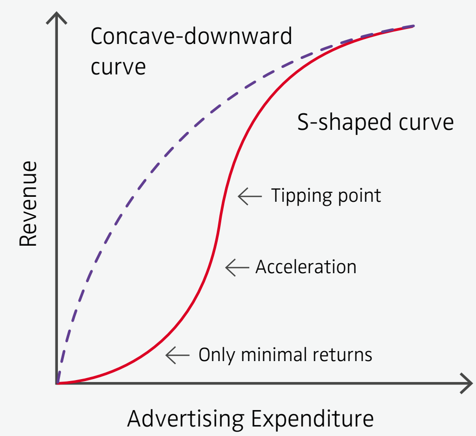
BOX 1

Accounting for non-linear marketing response

The underlying relationships between the measures in the dashboard need not be linear, that is, a constant return or impact per dollar spent. In practice, diminishing returns are observed and efficiently captured in a concave downward curve, as shown in Figure 2. In this case, marketing has a strong initial impact, but the market or segment becomes saturated.

Also common are S-shaped market response curves, implying that marketing's impact at low levels has only minimal returns. Eventually it accelerates and then starts to taper off, also known as the tipping point. This shape should be reflected in the underlying relationships captured in the dashboard.

FIGURE 2 > Typical response curves of marketing activities



to an area) is implemented in a subset of the population and compared to a control group. However, the costs and time limitations of running these RCTs point to the need for better integration with observational data and methods. Such integration is rapidly moving forward with the advent of AI and machine learning. Other steps are helping in the estimation of these relations; for instance, randomizing ad bids separates mere correlation from true causal effects, takes care of endogeneity concerns and improves the accuracy of observational estimation of advertising effects.
Synergy in marketing spending is another hot topic. A great deal of research presents methods to quantify the synergy among marketing actions, both online and offline and for different customer segments in different brand conditions. This reflects the interaction between marketing variables and is a fairly common practice in marketing. For example, it's natural to want to advertise when prices are lowered, or to announce when features are added to a product or service. These combined effects are synergistic. It is desirable to determine whether an increase in sales was the result of a drop in price or of increased advertising, as both actions may not be necessary. The separate and joint effects of field experiments have become fairly easy to assess. This information can then be shown as such in the dashboard and reflect the effect in real life. The online/offline synergy is reflective of their joint impact. The work on attribution should be integrated into

» *The dashboards of the future need to be dynamic and constantly adapting to changing market conditions.* «

BOX 2

Marketers' expectations from dashboards

Based on a survey of nearly 100 executives in 2005, dashboard adoption was mixed. While most managers reported their companies were working on the development of a dashboard, almost none considered the dashboard complete, nor did they rate its quality very highly. Yet, the desire for dashboards remained strong.

Today, marketing dashboards have become standard practice. That said, managers continue to want more, as evidenced in these 2022 quotes from the author's personal conversations:
"The perfect tool would be a dashboard to see what I am spending on, and what is coming back as impressions engagement and transactions on a daily basis, with benchmarking versus our immediate competitors."
"Financial folks want immediate gratification, so they like proof of fast conversion. You won't get that for sales with a branding campaign, so we need immediate measurement that a person saw it or raised their hand (e.g., clicked, entered their email address). Such dashboard metrics help us formulate hypotheses on why something is underperforming – and increase spending on what is overperforming."

Throughout dozens of interviews, advertisers replied that they still wanted "a dashboard connecting marketing inputs with consumer responses and conversion outputs." Agency and data aggregator dashboards typically provide only the former, and digital platforms, such as Google Analytics, only the latter.

the dashboard to reflect synergistic impact and not give all the credit to merely where the sale transpired.

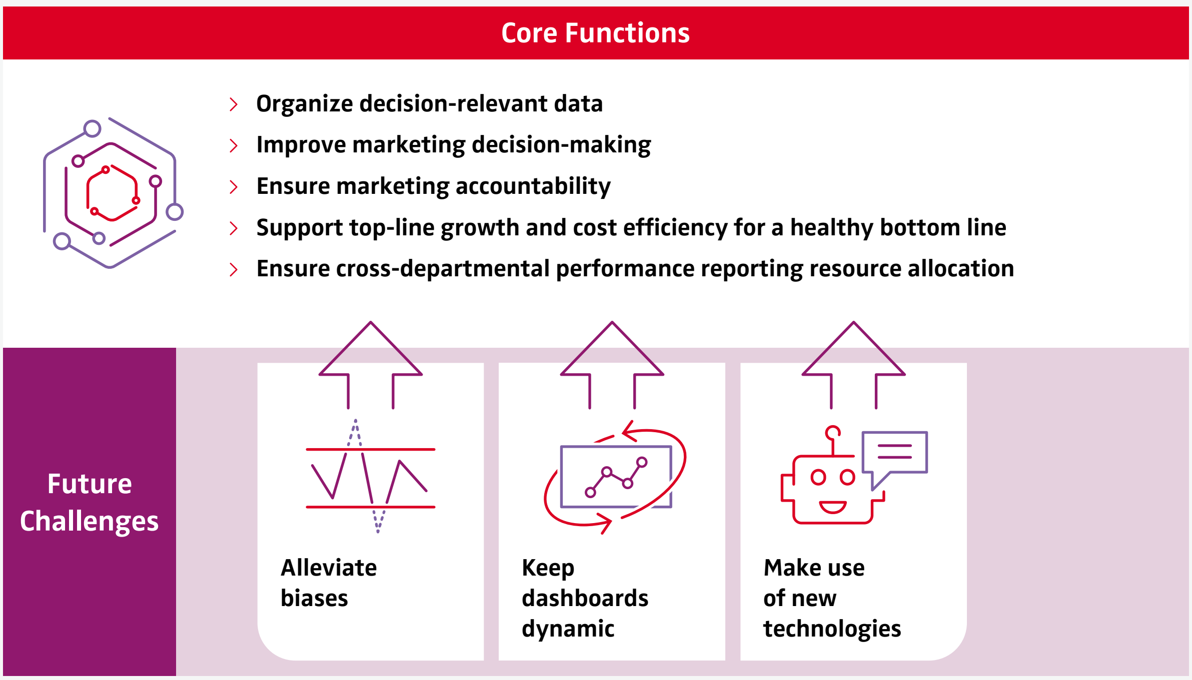
- **Forecasting and "what-if" analysis** × With a fully populated dashboard and an empirically-based articulated relationship between its components, the dashboard can be used not just as a reporting tool but also as a strategic tool. It would be possible to evaluate alternative marketing plans to assess the forecast under different scenarios. This could include different allocations as well as changes in customer behavior, segment sizes, competitive behavior, etc., depending on what is included in the dashboard. This capability allows for tracking early warning signs signaling the need for a shift in spending as one starts to detect a change in the operating environment.

- **Connecting to financial consequences** × The marketing dashboard should not end with marketing outcomes. In terms of serving the greatest role for the company and demonstrating the value of marketing's role, it is important to also connect the marketing outcome variables to firm KPIs, including revenue, profits, cash flow, EBITA and even return on investment.

  With the inclusion of the S-shaped curves it will be possible to show that marketing should not always be requesting a bigger budget. There are diminishing effects which could result in a decrease in profits, demonstrating to marketers and to the rest of the organization that more marketing spending is not always better and doesn't always lead to a sound strategy.

How to make dashboards fit for the future × More than a decade ago we wrote that at least five factors were mentioned by managers as driving the need for dashboards: (1) Poor organization of the many pieces of potentially decision-relevant data; (2) managerial biases in information processing and decision-making; (3) the increasing demands for marketing accountability; (4) the dual objective of companies to grow the top line while keeping down costs for a healthy bottom line; and (5) the need for cross-departmental integration in performance reporting practices and for resource allocation. None of this has changed according to managers (see Box 2).
Today it is clear that the existence of a dashboard helps focus the organization not just on what the key measures of concern are but on having a common measure across functions.

FIGURE 3 > Core functions of dashboards and future challenges



Also, the underlying relationships are more trustworthy and supported by data and advanced analytic tools, and therefore the credibility of marketing is enhanced. With so much spending now online, the direct accountability is much more visible, credible and rapid in response. However, there are still challenges ahead for future dashboards. In our interview, Neil Hoyne, Chief Measurement Strategist at Google, presents his view on necessary improvements (p. 60). Figure 3 lists the requirements that dashboards need to fulfill to be regarded as valuable tools, plus some challenges that still lie ahead, which we discuss below.

> **Keep debiasing decision-making** × No doubt, marketing dashboards have significantly improved marketing decisions, but not always. As demonstrated in this issue by Artz and Mizik (p. 40), CMOs may also fall victim to marketing myopia, optimizing their decisions based on what increases their own compensation instead of what is in the best long-term interest of the organization. Likewise, big data and its incorporation into dashboards does not necessarily alleviate the many decision biases. Thinking like a scientist – testing hypotheses, uncovering disconfirming evidence – is enabled by analytic dashboards but remains scarce in management. In contrast, cherry-picking positive marketing outcomes and always asking for more resources remains a common practice of marketing departments and a common complaint of more financially focused executives. A dashboard that shows the interconnection of spending and identifiable outcomes and reflects not only "promised" increasing results but also the diminishing portion of the S-curve sales response function can only enhance the credibility of marketing and respect from the financial side of the organization.

» *The existence of a dashboard helps focus the organization not just on what the key measures of concern are but on having a common measure across functions.* «

> **Keep dashboards dynamic and integrate long-term effects of marketing spending** × One of the reasons the dashboard is organic is that the understanding of the relationships between different metrics will grow over time with more and more data. What makes the development more complicated is that they will also evolve – meaning that what works and by how much will not stay constant. Therefore, the dashboard and its underlying structure will need to change to reflect the shifts in the market and the competitive response.

Further, what is still missing is the long-term effects of marketing spending. Such long-term benefits may take the form of the value of the brand, the credibility of the lifetime value of the customer, the relationship with distribution and other trade partners, and other long-term effects. No one doubts the calculations of the lifetime value of the customer. It is based on assumptions supported by data while assuming competition does not radically change to disrupt customer and trade relations. This is not always the case. Hence, again, the need for the dashboard of the future to be dynamic – not a quarterly or even bi-weekly "report" but a live indicator of where things stand at this moment.

> **Make use of technologies** × The modern dashboard is also likely to benefit from novel technologies, such as blockchain and artificial intelligence. First, blockchain may help track customer data, its standardization and quality, coordinating among different departments, supply chain partners and MarTech vendors. The data recorded in a blockchain can easily be made accessible to the participants. Second, artificial intelligence has already made great strides in automating parts of dashboard development and can write out human language stories based on statistical evidence, generate graphs and allow the dashboard user to verbalize hypotheses to be tested in follow-up research.

Nevertheless, companies will continue to say their dashboards are not complete, and that is good news. The dashboards of the future need to be dynamic and constantly adapting to the changing times. We don't want a car dashboard to tell us how much fuel we had left in the tank last week or how fast we were going, but instead to report conditions in real-time and provide reliable, crash-preventing driving assistance. The same is true for the marketer of today and tomorrow. ×

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