PEAK PERFORMANCE

Driving Advertising Effectiveness That Lasts

accenture

Commissioned by thinktv

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Background

In 2019, Accenture conducted research on advertising attribution in the Canadian marketplace in a study titled *The Moneyball Moment for Marketing in Canada* (the "*Moneyball* study"), commissioned by thinktv. The study focused on helping marketers rethink their approach to evaluating media performance by using analytics to improve the way they allocate and measure how media investments produce sales.

In the *Moneyball* study, we analyzed over $3 billion of media spend by 105 brands within Canada across four industries: Automotive, Consumer Packaged Goods (CPG), Over-the-Counter (OTC) Pharmaceuticals and Telecommunications. The objectives of the study were to determine which media channels drove the best return on investment (ROI); the impact of different levels of investment across media channels; whether media channels impact each other to contribute to their overall performance; and finally, if advertisers in Canada were maximizing their overall media mix to drive the highest sales revenues.

We discovered the following insights for marketers:

- **Companies can justify an increase in their total media spend in Canada.** Media delivers an impressive ROI of nearly 12x sales, which suggests advertisers in Canada should look at increasing the budgetary allocation to media spend.
- **Major brands are underinvesting in TV in Canada.** Advertisers can maximize the yield on their media investments by increasing budget allocations to TV by 5% of total media spend.
- **TV has a material Halo Effect on digital media.** The Halo Effect is defined as the impact that top-of-the-funnel advertising has on other media channels. We determined that TV amplified the sales ROI of digital by 19% and that the performance of TV increased by 23% when accounting for the Halo Effect.
- **TV provides a strong upside for the next dollar spent.** Canadian marketers see greater returns from an additional dollar spent on TV advertising than one spent on other media channels.
- **There is untapped value in Broadcaster-owned Long-form Digital Video Content ("LFVC") in Canada.** Underinvestment in this channel presents a significant opportunity for advertisers in Canada, as it outperforms all other digital channels by 2x on an attributed sales ROI basis.

The ROIs calculated in the *Moneyball* study were based on the sales attributed for a period of up to one year after the measured marketing activity. The analysis did not account for the impact of the marketing activity beyond one year. The objective of this research, *Peak Performance: Driving Advertising Effectiveness That Lasts* (“***Peak Performance***”), is to assess the longer-term impact of media investment (defined in this research as the impact of marketing activity beyond one year). *Peak Performance* delivers insights about how advertisers must carefully balance short-term activation and long-term brand building activities to maximize overall sales ROI from media spend over the longer term.

Four important insights from this new long-term research

1 **Media has a Significant Impact Beyond the First Year.**
When factoring for the multi-year impact of advertising, nearly 30% of annual sales are derived directly from media activity. Breaking this down, the sales impact of media advertising within the first year represents 21% of annual sales, and the long-term impact adds another 8%.

2 **Multiplatform TV has the Longest-Lasting Impact on Sales.**
Multiplatform TV (defined as the combination of TV and Broadcaster-owned Long-Form Digital Video Content) has the longest-lasting impact on sales with a lifespan of 40 months and contributes significantly to other media channels through its Halo Effect, delivering a $23.40 ROI – 77% more effective than the total ROI of all other channels, on average. The Halo Effect is the ability of TV advertising to amplify advertising effectiveness in multi-channel campaigns and is often hidden when measuring advertising effectiveness.

3 **Video-Based Media Delivers the Best ROI.**
The most effective media channels are LFVC, TV and short-form digital video content ("SFVC"). These three video-based channels are 1.8x as effective as non-video channels on average within the first year of marketing activity and are 3.6x as effective beyond one year. We define LFVC as advertising against broadcaster-owned digital video content greater than 15 minutes in duration and sold separately from linear TV.

4 **TV's Resilience to Diminishing Returns Highlights Upside for Increased Investment**
To maximize advertising effectiveness, TV media budgets in Canada on average could increase from the current 42% to 48% of a brand's total media spend. By closing this gap, advertisers in the industries studied in our research could maximize the power of the Halo Effect to ***generate an additional $2 billion in sales directly attributable to media activities.***

Introduction

Marketers in Canada do not have it easy when it comes to media decision-making. Economic realities are putting downward pressure on budgets, and options for how and where to advertise are growing significantly. In addition, there are increasingly blurred distinctions between media channels, and the impact that each channel has on sales is often unclear. These factors make it challenging, yet more imperative, to understand the effectiveness of every media dollar.

The Moneyball study delivered powerful insights for marketers. Still, we believed that we could go further to address whether media channels impact sales ROI in the longer-term, especially given the commonly seen short-termism in the marketing industry. Successfully promoting and sustaining abrand is a challenge, and to do that effectively, marketers need to understand the connection between advertising today and sales results, not just tomorrow, but two to three years from now.

To quantify the long-term sales impact of media in Canada, we embarked on this new study, *Peak Performance: Driving Advertising Effectiveness That Lasts* to answer the following questions for marketers and their brands:

- **What is the long-term sales ROI of media channels (i.e. ROI beyond the first year of marketing activity)?**
- **Does the Halo Effect continue to manifest beyond the first year?**
- **What is the total sales ROI of media channels (i.e. combining the sales ROI within the first year and beyond)?**
- **How long do media channels influence sales?**

We utilized econometric modelling techniques to link media spend and sales data to analyze the effectiveness of media spend across all channels. As in the *Moneyball* study, we assessed over $3 billion of total media spend by 105 brands across four industries within Canada: Automotive, CPG, OTC Pharmaceuticals, and Telecommunications. This time, however, we investigated the impact of media on sales beyond the first year of marketing activity to develop a complete view of its effect.

INSIGHT #1

Media has a significant impact beyond the first year

In the *Moneyball* study, we found that, on average, for every dollar spent in media, a sales ROI of $11.79 was realized within the first year.

With this new analysis, we expanded our time horizon to beyond one year of sales and uncovered significant and previously unrecognized long-term value for brands in our marketplace. On average, the total sales ROI of media increases by 42% to $16.69 over four years from $11.79 within year one – an additional $4.90 of value realized beyond the first year (see Figure 1). Based on these returns, we can say that just over 70% of the value of media is realized within one year and an additional 30% of value is realized over the longer term.

Figure 1:
Total ROI Breakdown across All Media

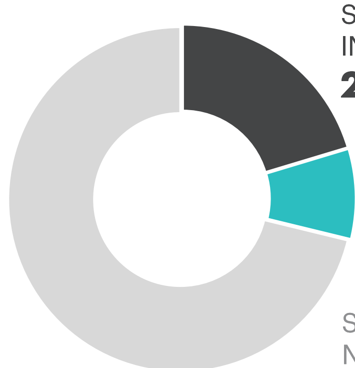
BEYOND YEAR ONE:
$4.90

TOTAL ROI:
$16.69

WITHIN YEAR ONE:
$11.79

Our *Moneyball* study found that 21% of the overall sales measured could be attributed to media activity within the first year. By expanding our view of sales data to look beyond one year, we found that the same media spend contributed an additional 8% of sales to a brand during those extra years (see Figure 2). Most of this additional long-term value is realized in year two, with marginally fewer returns in the years that follow.

Figure 2:
Total Sales Contributions of All Media: 29%



Ultimately, these findings demonstrate that advertisers should not underestimate the impact of advertising to drive sales in the short and long term. Understanding how media spend continues to impact sales over future years can help marketers to better plan campaigns, properly attribute sales to appropriate activities and allocate media spend to create the most value over the short- and long-terms.

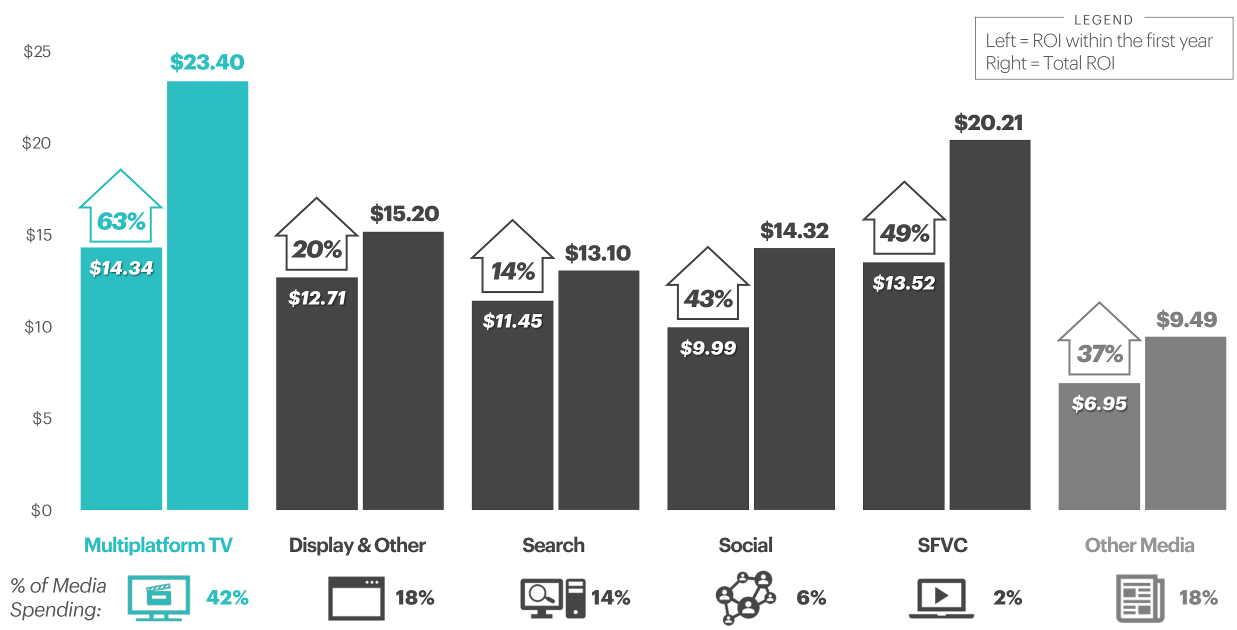
INSIGHT #2

Multiplatform TV delivers the biggest and longest-lasting return on sales

In the *Moneyball* study, the sales ROI of ad spend on Multiplatform TV was found to be $14.34, which was 35% more effective than the average of all other media channels. When we expand that analysis beyond the first year, the sales ROI of Multiplatform TV increases to $23.40, making it 77% more effective than the sales ROI of all other channels on average.

Our research also found that Multiplatform TV delivers 39% of its value in the long term, compared to only 20% for all other media channels on average. Assessing each media channel individually further illustrates this point (see Figure 3).

Figure 3:
Sales ROI by Media Channel in Year One and in Total

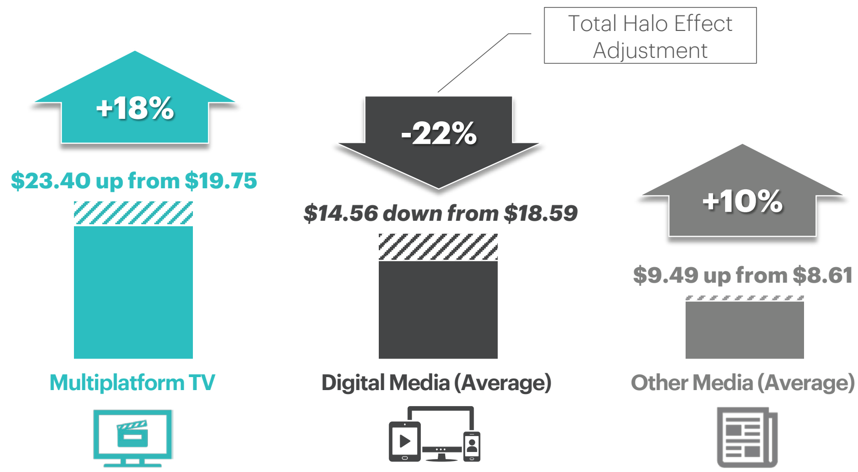


The *Moneyball* study highlighted that a primary driver for Multiplatform TV's strong performance is the Halo Effect - the ability of one media channel to amplify the performance of investments in another. Typically, top-of-the-funnel media channels such as TV and radio generate a Halo Effect that materially amplifies the performance of digital and other media. The absolute return on a media channel is often quite different from the attributed return on a channel, and advertisers must understand these implications to maximize yield.

Unsurprisingly, we have found that the Halo Effect extends beyond the first year, furthering Multiplatform TV's positive influence on the performance of digital media. Aggregating the Halo Effect within and beyond the first year shows that Multiplatform TV amplifies the sales of digital media by 22% –

understating TV's sales ROI in typical attribution modelling by as much as 18%. When properly attributed back to Multiplatform TV, sales ROI increased to $23.40 from $19.75 (see Figure 4). Failing to account for the multi-year impact of the Halo Effect results in an underestimation of the value of Multiplatform TV. Any resulting decreased investment in Multiplatform TV would ultimately lead to weaker performance by the digital channels.

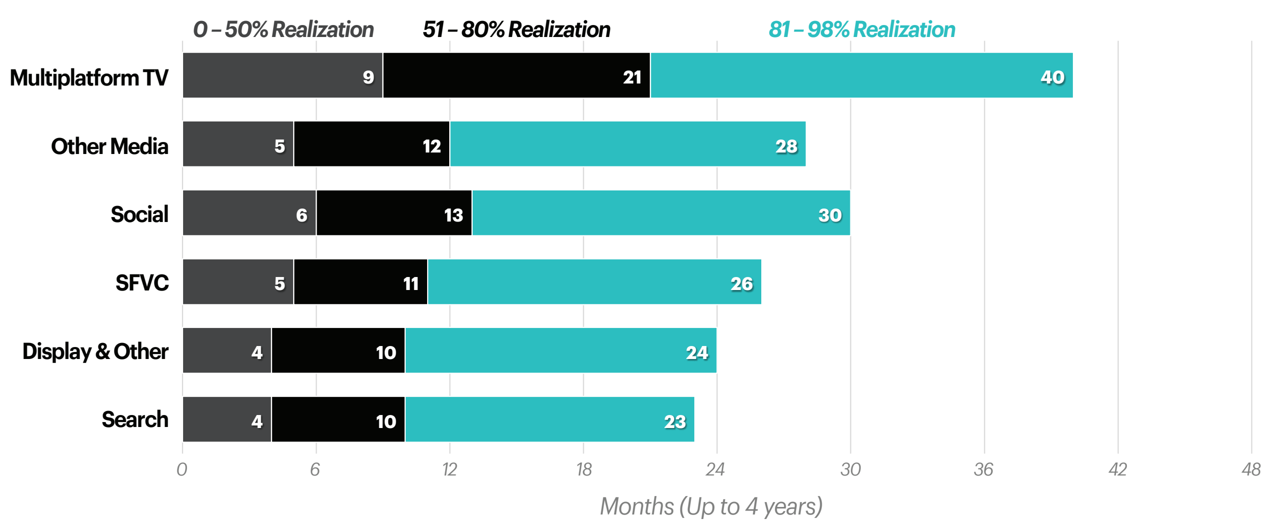
Figure 4:
Halo Effect on ROI by Media Category



Finally, Multiplatform TV has the longest lifespan of all media channels. Multiplatform TV traits, like the experience of sight, sound and motion, together with the creative quality, have a lasting impact on audiences that drives incremental sales up to 40 months after a campaign has concluded. Only half the total value of Multiplatform TV spend is realized within nine months, and it takes almost 2 years to realize 80% of its value. By comparison, the value of advertising in digital media has a much shorter lifespan, with each channel realizing 80% of its value by months 10 to 13 (see Figure 5).

Multiplatform TV delivers value on investment for up to 40 months post campaign launch.

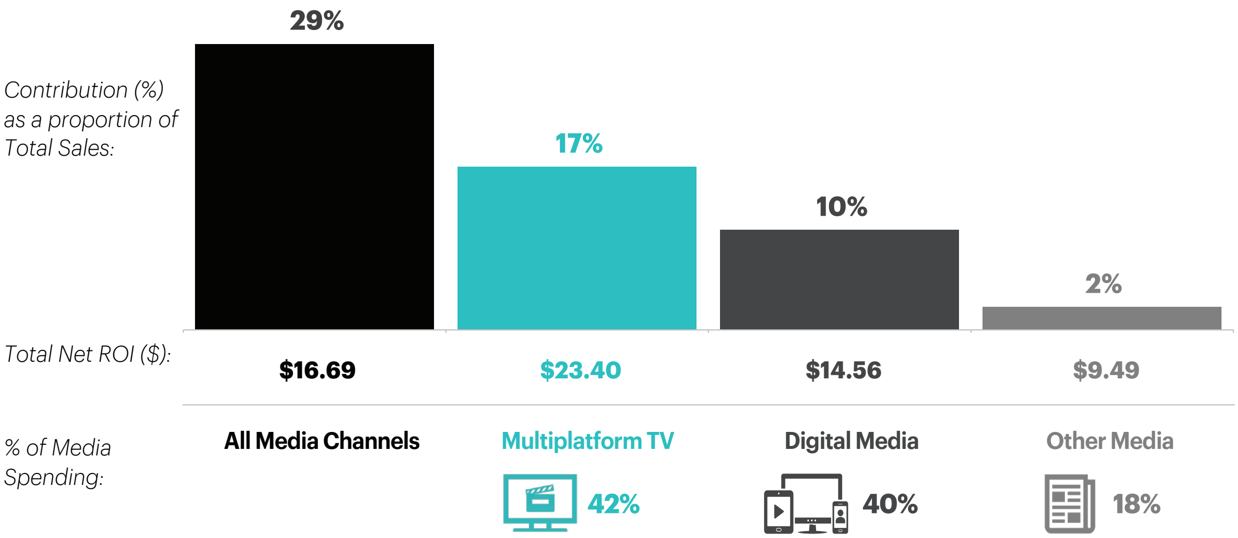
Figure 5:
Time Horizons of Advertising Returns by Channel



Advertisers commonly use digital media channels such as display or paid search as performance marketing tools. While effective at generating clicks and driving customers to activate earlier in a campaign, digital advertising has less value over the long-term. By contrast, Multiplatform TV creates a longer-lasting impression in the minds of consumers, which translates into sales ROI for as long as 40 months after the marketing activity.

With its rich media quality, Halo Effect, and long lifespan, Multiplatform TV also makes the most significant contribution to sales of all media channels, contributing nearly 17% of annual sales. To put this in perspective: Multiplatform TV represents 42% of media spend, but over 57% of the sales contribution from all media channels (see Figure 6).

Figure 6:
Total Contribution to Sales by Channel



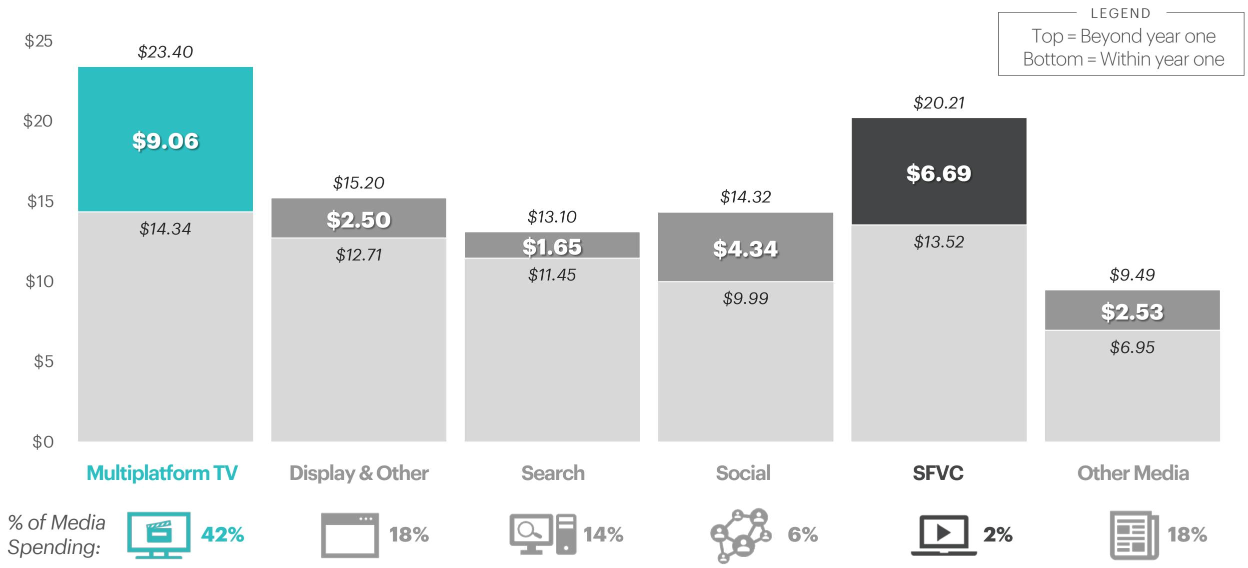
In our study, Multiplatform TV represents 42% of media spend, but over 57% of the sales contributions from all media channels.

INSIGHT #3

Video-based media delivers the best ROI

After adding in the long-term impact of media, we determined that video-based media formats generate the highest total sales ROI. Assessing the sales ROI beyond one year in isolation, Multiplatform TV and SFVC are clear leaders (see Figure 7).

Figure 7:
Long-term ROI by Channel



The richness of the video media format and long-lasting influence of the creative are critical components of its performance. Video-based advertising engages and impacts viewers in a way that other channels do not, and consequently delivers longer-lasting brand-building effects. In aggregate, the total sales ROI of video-based media is 1.8x that of all other non-video-based media.

Additionally, the total sales ROI of LFVC alone improves materially over the long-term. Although it represents less than 1% of the media budgets we studied, LFVC is an important contributor to sales ROI. On average, LFVC has the power to deliver 3.6x the total sales ROI of all other non-video media channels (see Figure 8). We continue to see a distinct opportunity for broadcasters to continue to grow their available LFVC inventory and expect advertisers to seek out this valuable advertising medium more actively as part of their media plans.

Figure 8: Relative Performance of Video-Based Media **(Automotive only)**[1]

	LFVC	SFVC	All Other Non-Video Media Channels
ROI Performance of Video Media vs. All Other Channels:	**3.6 x**	**2.4 x**	**1.0 x**
% of Automotive Media Spend:	**0.3%**	**1%**	**69%**

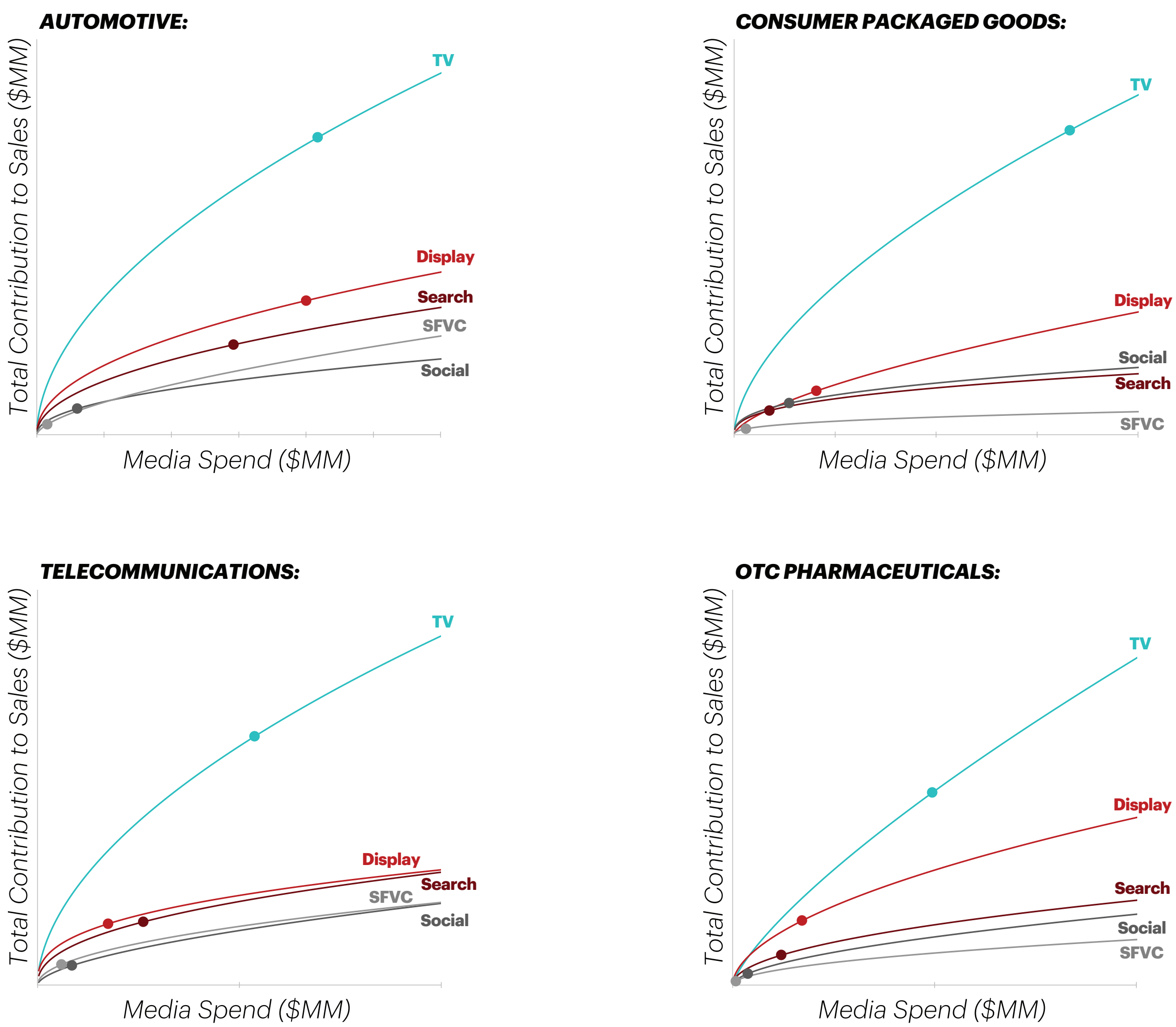
1. The Automotive industry contained the only group of brands with a statistically significant amount of LFVC spend to reliably measure sales contributions.

INSIGHT #4

TV's resilience to diminishing returns highlights upside for increased investment

Our *Moneyball* study produced sales response curves and media optimization scenarios to help marketers understand how to best allocate their next media dollar. In *Peak Performance*, we refresh that analysis to account for the longer-term impact of media and come to the same conclusions. Digital channels provide the highest contribution to sales at lower levels of investment, and TV drives higher incremental sales per dollar when invested at medium to high spend levels. A significant reason for this is TV's resilience to diminishing returns. The updated sales response curves below illustrate how these findings materialized across the four industries we studied in our research (see Figure 9):

Figure 9:
Advertising Spend Sales Response Curves by Industry



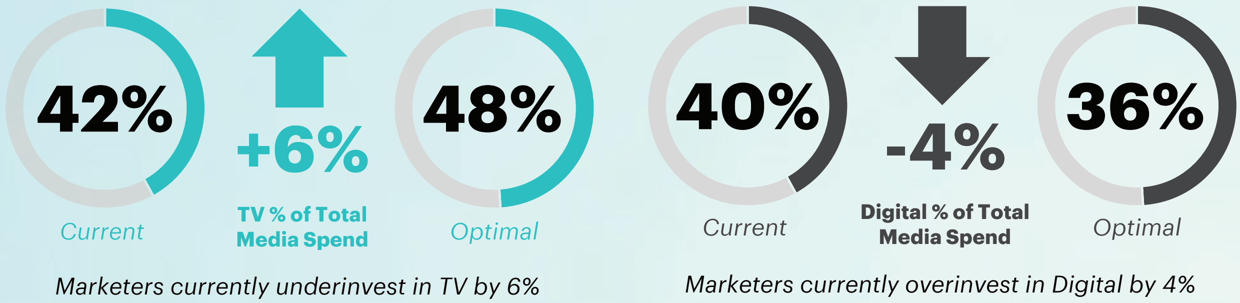
Note: the dot on each response curve represents the current spend levels in the corresponding media channel.

Across all four industries, we see digital media contributions plateauing faster than TV. As with the *Moneyball* study, the saturation of digital inventory as spend levels increase is the primary driver of this plateauing effect. Taking a multi-year view causes this plateauing effect to be more pronounced. By contrast, TV response curves remain relatively linear when taking a multi-year view.

How can marketers use these response curves to make budgeting decisions?

We refreshed our media optimization scenarios to determine the level of spend per media channel that best drives sales. Our analysis showed that TV is underinvested by 6% of total media spend. To maximize the sales driven by their media budgets, Canadian marketers should close the gap between their current and optimal media allocations by shifting 6% of their current media investments, on average, toward TV (up from 5% in the *Moneyball* study – see Figure 10).

Figure 10:
Current vs. Optimal Media Spending



If this media optimization were implemented, our analysis shows that marketers in the industries we assessed could have generated as much as **$2 billion in incremental annual sales attributable to media activities**. That represents an additional $600M in upside from the *Moneyball* study, due to the inclusion of the longer-term impact. This lost revenue opportunity was most prominent in the Telecommunications and Automotive industries, with our findings suggesting that media optimization required an increase in current TV advertising investment by 7.4% and 6.6% points, respectively.

Call to action for marketers

Based on the updated results from our research and long-term econometric modelling in *Peak Performance,* we found that media advertising continues to deliver significant value to sales in the first year of activity and beyond.

More specifically, in terms of impacting a brand's sales in both the short- and longer-term, our analysis highlights Multiplatform TV as the star player that continues to outperform the rest.

Overall, we recommend the following actions to achieve success for your brands over the longer-term:

Measure Media for 3 Years, At Minimum. Advertisers should not succumb to short-termism by limiting performance measures to six- or 12-month timelines. Our analysis shows that nearly 30% of the total value from media is generated beyond the first year of a marketing campaign.

Maximize Returns via Video-Based Media. Video-based media (i.e. TV, LFVC, and SFVC) shows the most substantial long-term impacts. They also deliver the highest total sales ROI, performing 1.8x better in aggregate than all non-video channels in the first year and 3.6x better in the following years.

Ensure Multiplatform TV Represents a Significant Portion of Future Media Budgets. With the combined value of its Halo Effect and significant long-term impacts, **Multiplatform TV outperforms all other media channels**. Multiplatform TV represents 57% of the total sales contribution from media, but only 42% of total media investment. Our analysis indicates that the percentage of media investment in Multiplatform TV could grow to 48% to achieve even stronger sales.

Our new findings do not change the four key takeaways for marketers in Canada that we established in the *Moneyball* study.

Re-evaluate Overall Media Spend. When Canadian advertisers consider the nearly 12x sales ROI their media investments deliver, it makes sense to review media investment to ensure maximum returns.

Re-evaluate Media Channel Allocation to Drive Improved Sales Return. TV is an undervalued and underinvested media channel. Advertisers need to re-allocate media investments accordingly.

Leverage Attribution Analytics Continuously. Given the increasing availability of third-party data, Canadian advertisers should invest in comprehensive media attribution analytics to ensure ongoing ability to optimize media yield.

Take Advantage of Broadcaster-owned Long-Form Digital Video Content. LFVC has remarkably high sales ROI. Advertisers should use it more as inventory becomes available.

About the study

Our study links media spend, TV viewership and sales data in the Canadian market. It provides advertisers with an analysis of the effectiveness of spend across all media channels, showing how rebalancing that spend to TV can drive increased sales.

The study is based on the following data sources:

- Our data set includes over four years of data (January 2014 to mid-2018), covering 105 brands across four industries: Automotive, Consumer Packaged Goods (CPG), Over-the-Counter (OTC) Pharmaceuticals and Telecommunications.

- We assessed over $3 billion of total media spend over four years, which made up over 5% of spend in the Canadian market during that time period. This dataset ensured statistically significant (p-value < 0.05) and precise (standard error < 10%) estimation of model parameters.

- We sourced data from seven syndicated and non-syndicated sources. Syndicated sources included DesRosiers Automotive Consultants for Automotive sales data and Numerator for TV viewership data.

We leveraged the following modelling approach:

- We categorized all media spend into a standard set of traditional and digital media channels: traditional included TV, radio, OOH, magazine, and newspaper, while digital included paid search, display & other, social and SFVC.

- Our modelling techniques extended beyond a typical Media Mix Modelling (MMM) exercise. We first conducted an MMM analysis on the data set to establish baseline performance by media channel. We broke down these MMM outputs further to understand the interrelated impacts of different marketing tactics (e.g. the impact that TV spend has on digital spend such as search or display). This enabled us to attribute value back to channels that amplify the effectiveness of other channels, which would otherwise be missed in a siloed, channel-by-channel analysis.

- Finally, we modelled the response curves of each media channel by industry to understand the expected incremental value associated with increased spending. From these models, we determined a marketing mix that optimized for maximum sales.

An important note: While media channels like newspapers, magazines, OOH, and radio were included in our calculations, our primary focus was to analyze TV and digital advertising. We believe the data used and the analytics employed effectively describe the Canadian media marketplace, as outlined in this document.

Methodology

For this study, we analyzed more than $3 billion in anonymized media spend data between 2014 and 2018 spanning 105 brands across four categories, including Automotive, CPG, Telecom and OTC Pharmaceuticals. Combined with weekly sales over the same period, we created a custom analytical dataset that represented approximately 5% of the annual Canadian media spend. Attributing media investments to sales is performed using our Media Mix Modelling (MMM) methodology. Accenture has more than 20+ years of expertise in offering MMM solutions at more than 100 clients across different industry verticals, including Retail, CPG, Telecom, Automotive, Pharmaceuticals, Insurance and Hospitality. Our approach to MMM uses a hybrid assembly of the leading machine learning (ML) and statistical modelling methods. The primary techniques used in this study include:

State space models – used to estimate the baseline sales considering elements like trend, seasonality (e.g. pre-Christmas dates are controlled for), cyclicity, and other independent variables. Isolating for the stochastic base, identifies the natural movement in sales uninfluenced by media investments. One major benefit of state space modelling is that it can handle situations where there is an undefined structural shift in the sales.

Nonlinear Variable Transformations – applies a variety of nonlinear transformations to the relationship between ad execution and sales. The transformations account for the decay impact, diminishing return, and delayed time between ad execution and sales impact.

Bayesian Belief Model – an ML technique of Bayesian Belief Networks using Hill-Climbing. It self-establishes the network relationship among media channels and helps in computing the direct impact and halo effect of advertising on sales. This approach offers the ability to embed prior knowledge in modelling, enabling more reliable results.

To determine the marginal returns, implicit in understanding Halo Effect, we leveraged "diminishing return analysis" to understand how sales change with changes in media investment, assuming finite levels of effective media. This rate of decline between Average ROI and the Marginal ROI is critical to understanding the impact of the next best dollar spent, and the non-linear marketing budget optimization that maximizes revenue.

To look beyond the 12-month sales impact assessed in the *Moneyball* study, we locked in those results to recalibrate the model and generate a baseline. Subsequently, we repeated the MMM techniques on an additional three years of actual and projected sales data, based on the same media spend.

To ensure the ML models built during the study were robust, two types of validation checks were used: model validation and in-market validation. Model validation meant ensuring Model Diagnostics and Feature Diagnostics meet Industry standards. All ML models were built based on 1000+ iterations and the best models were chosen, based on minimum Akaike Information Criterion and Bayesian Information Criterion. With respect to predictive power, the average prediction error was less than 5% and overall in the range 2%-10%. On average, the statistical significance of the features in the model was 95%, with the minimum and maximum being 85% and 99%, respectively. In addition, all models had a Durbin-Watson statistic in the range of 1.9 - 2.2, thus ensuring forecast accuracy.

In addition to the above checks, Out of Sample (OOS) validation was performed at a time window of the last 7 months (~15%) of the four-year dataset. All the model and feature diagnostic checks performed on the OOS data were similarly robust and as accurate as the in-sample data. In addition, Results Validation was done by comparing the model statistics and parameter estimates with previous studies on TV viewership in the Canadian market.

Definitions

DISPLAY & OTHER is advertising against content on websites or in apps, whether in static or rich media form.

Inclusions in this category are the following:

- Pure Play Content (core business is online/-mobile content of all types)
- Ad Network / Ad Exchange (Properties that aggregate inventory and audiences from many sources or supply a tech-platform for automated auction-based buying in real-time)
- Mobile Ad Network / Ad Exchange (same as above but for mobile inventory)
- Print – Digital (Digital content of traditional print media properties)
- Other Digital (Other digital spend which does not fall into the above sub-categories)

PAID SEARCH is advertising that increases the visibility of brand websites in paid search engine result pages.

SOCIAL is advertising bought through social media networks.

SHORT-FORM DIGITAL VIDEO CONTENT (SFVC) is advertising against digital video content that is typically under 15 minutes in duration.

TELEVISION (TV) is advertising against conventional and specialty television content, including live linear TV as well as personal video recorder (PVR) and set-top box (STB) on-demand content.

LONG-FORM DIGITAL VIDEO CONTENT (LFVC) is advertising against broadcaster-owned long-form digital video content greater than 15 minutes in duration, which holds an ad load distinct from the standard TV buy.

MULTIPLATFORM TV is advertising against the combination of TV and LFVC grouped into a single category.

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