

Marketing Mix Analytics for Female Sales

Measuring the
Impact of Gender
Bias in Advertising
for a Major Big Box
Store



Situation

- A major discount retailer, (referred to as “**Genesis Stores**”), found that female customers represent over 60% of all purchases, and enjoyed a 15% annual growth rate.
- But its growth could have been 3% higher had there not been a deterioration of how females were perceived in the advertising.
- Sales growth among female customers has been 1.5 times their male counterparts.
- Female buying power makes it critical to understand what marketing levers drive them to buy, and any issues that might prevent Genesis Stores from maximizing sales among these important customers.

Executive Summary

- A robust & predictive model was developed for a major discount store, masked as **“Genesis Stores,”** and its female purchases. It shows a proven relationship between media spend, media creative/messaging, and sales transactions. It also shows that the way females are perceived in Genesis Store ads is also important and affects sales. Twenty-six percent of sales to females are due to these drivers.
- Sales to females grew at a strong 15% annual rate for Genesis Stores. Nevertheless, their growth could have been 3% higher had there not been a deterioration of how females are perceived in its ads. Considering that **Genesis is a \$78 billion enterprise**, this is a costly issue that needs remediation.
- The **surprisingly large impact from the measurement of gender bias in Genesis ads** shows that marketing to this important segment very much depends on the positivity of how females are portrayed within Genesis Stores’ media messages.

Terminology, Data, Model & Architecture

Bottom-Line Analytics (BLA)™ looks at and measures advertising in three distinct stages:

- **The Short-Term Effect** - When marketers advertise, there is an immediate increase in sales due to the acquisition of a new customer or an incentive to buy more from an existing customer.
- **The Long-Term Effect** - However, advertising also involves building loyalty over time, resulting in repeat sales from every acquired customer. Good advertising will build a longer-term sales momentum for brands.
- **The Impact of Ad Creative** - Finally, every ad that is run has a commercial message, and different messages affect sales. Measuring the impact of ad creative is an additional effect from advertising.

Terminology & Data

Two important data sources used for this modeling exercise include:

- **Affinity Solutions** and its partner company, **Iridescent Data**, which provided credit-card purchase transactions over a three-year period for Genesis Stores.
- **Advertising Benchmark Index (ABX)™**, which copy tested nearly 3,000 ads from Genesis Stores over the past three years. ABX has tested 400,000+ ads in all media types globally.
- ABX also provided its **Gender Equality Index (GEI)™** that measures how viewers perceive the role of females & males in media messaging as a means for measuring possible gender bias.

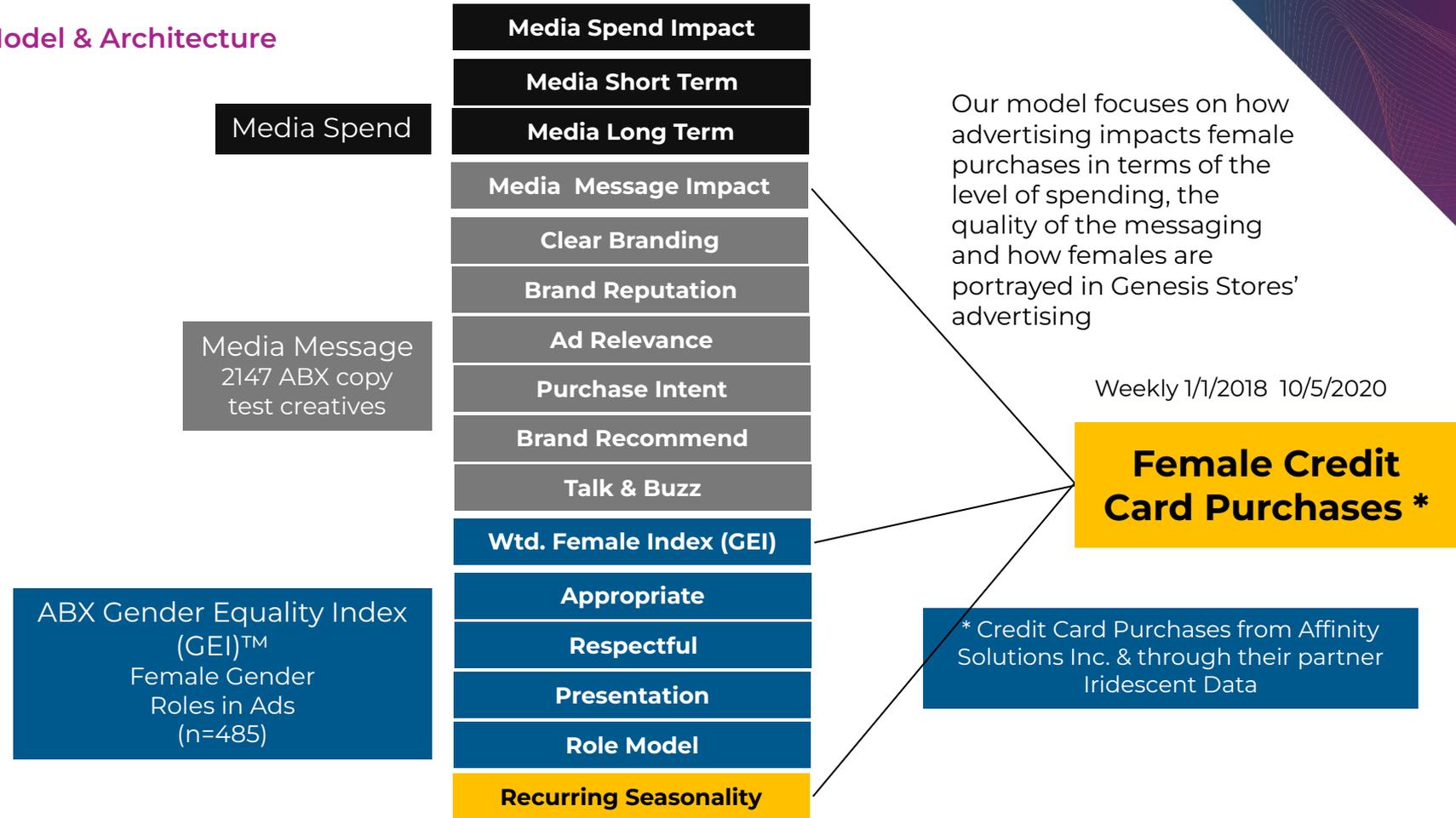
ABX Gender Equality Index (GEI)[™]

The **ABX Gender Equality Index (GEI)[™]** measures perceptions of how female/male actors are portrayed in the media by asking consumers' opinions about four key characteristics:

- If each gender's character(s) is being presented, positive or negative
- If character(s) is portrayed in a respectful manner
- If character(s) is presented in an inappropriate manner (e.g., sexual stereotyping, objectification, etc.)
- If character(s) is viewed as a positive role model

The assessment for each ad is compared to the **ABX normative database of 400,000+ thousand other ads**. The GEI score of 100 represents the average female/male gender score for all ads. ABX developed the GEI, which is the major part of the ANA SEEHER program's Gender Equality Measure - GEM[™]

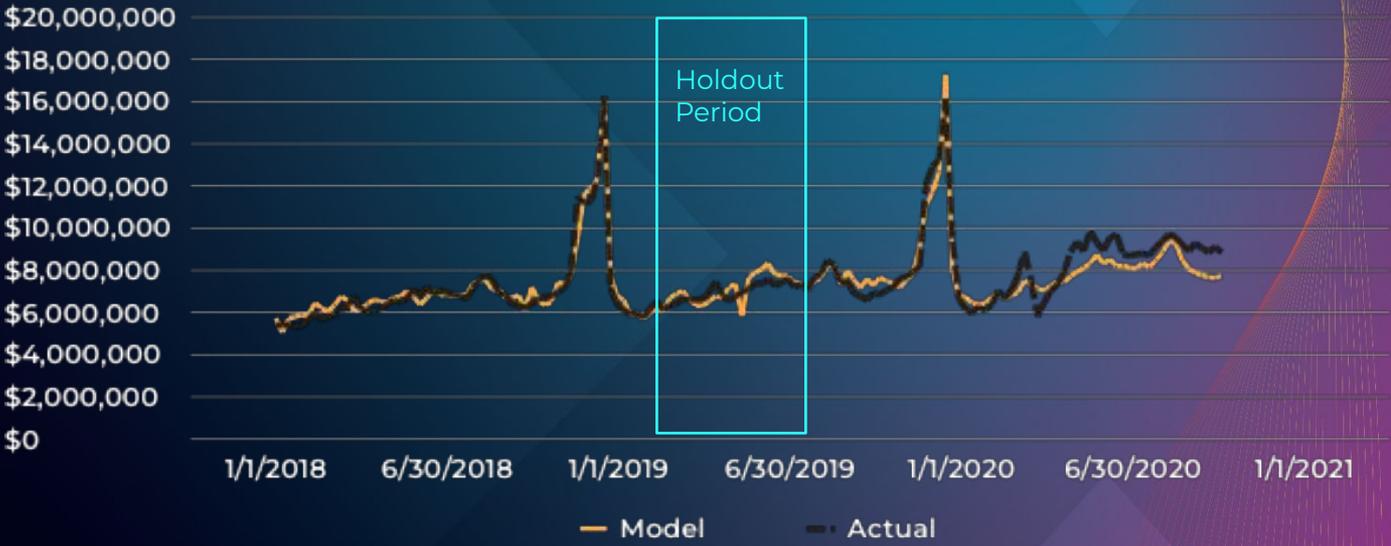
Model & Architecture



Validating The Model

This Model explains sales well and has a good ability to predict.

Genesis Stores Female Customers Sales & Model

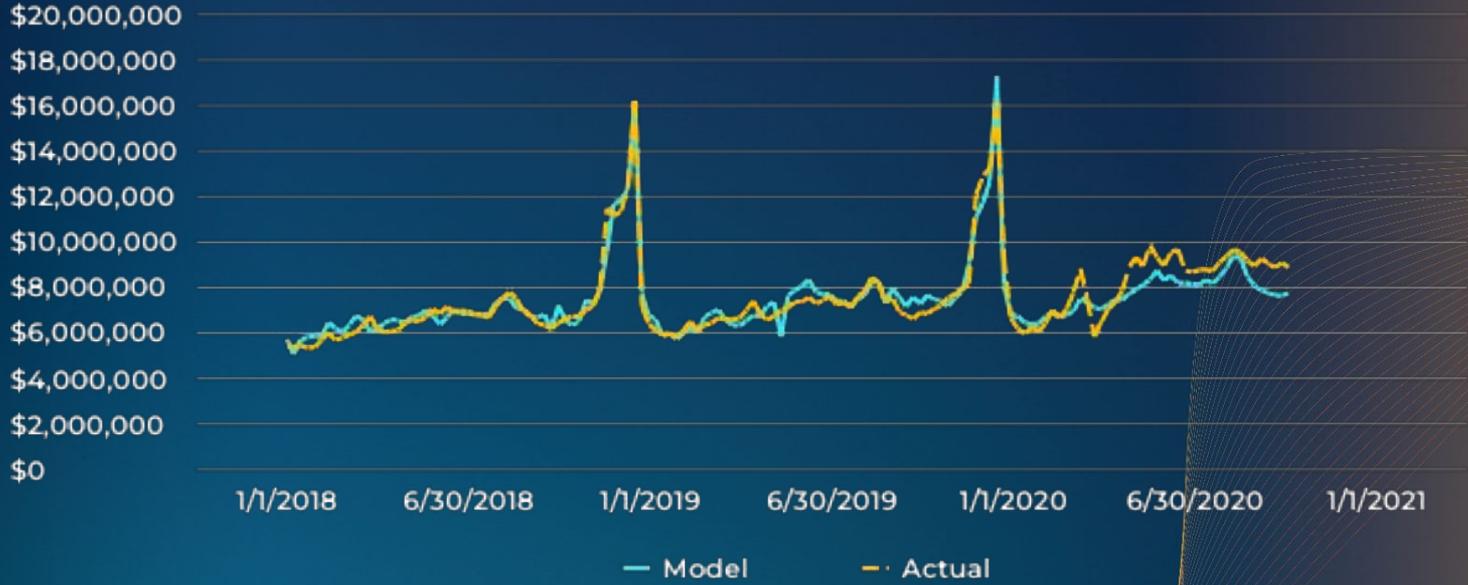


Model R ²	Holdout R ²	MAPE
95.3%	91.4%	6.2%

Validating the Model

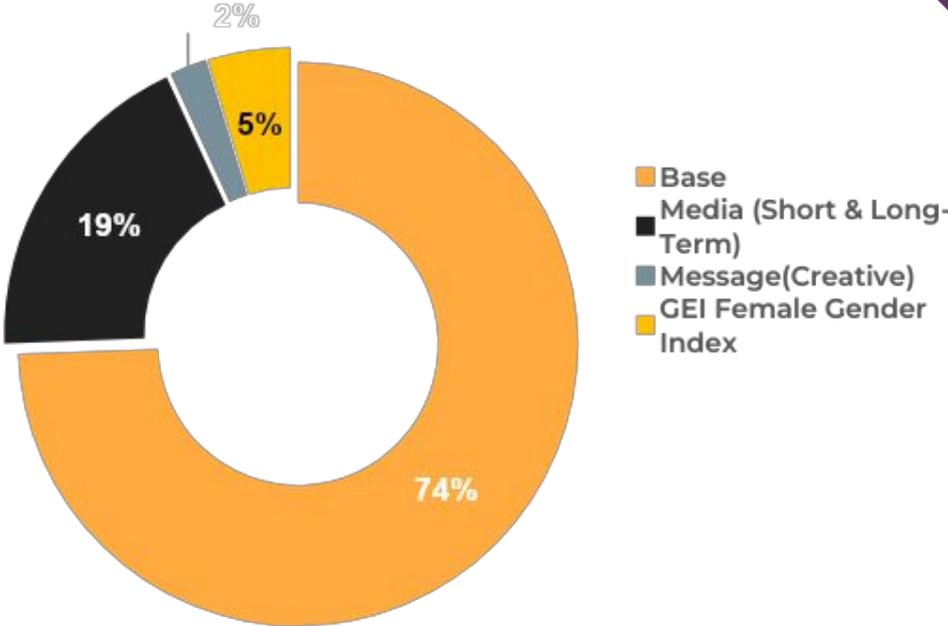
This Model explains sales well and has a good ability to predict.

Genesis Stores Female Customers Sales & Model



Annual Source of Growth – Decomposing Female Sales at Genesis

- 26% of Sales to Females is Incremental Due to Advertising & the ABX Gender Equality Index.
- 19% of sales to females are derived from short & long-term media
- 2% of the impact is due to media message or creative.
- The ABX GEI accounts for 5% of sales.



Decomposing Sales to Female Customers Detail Chart

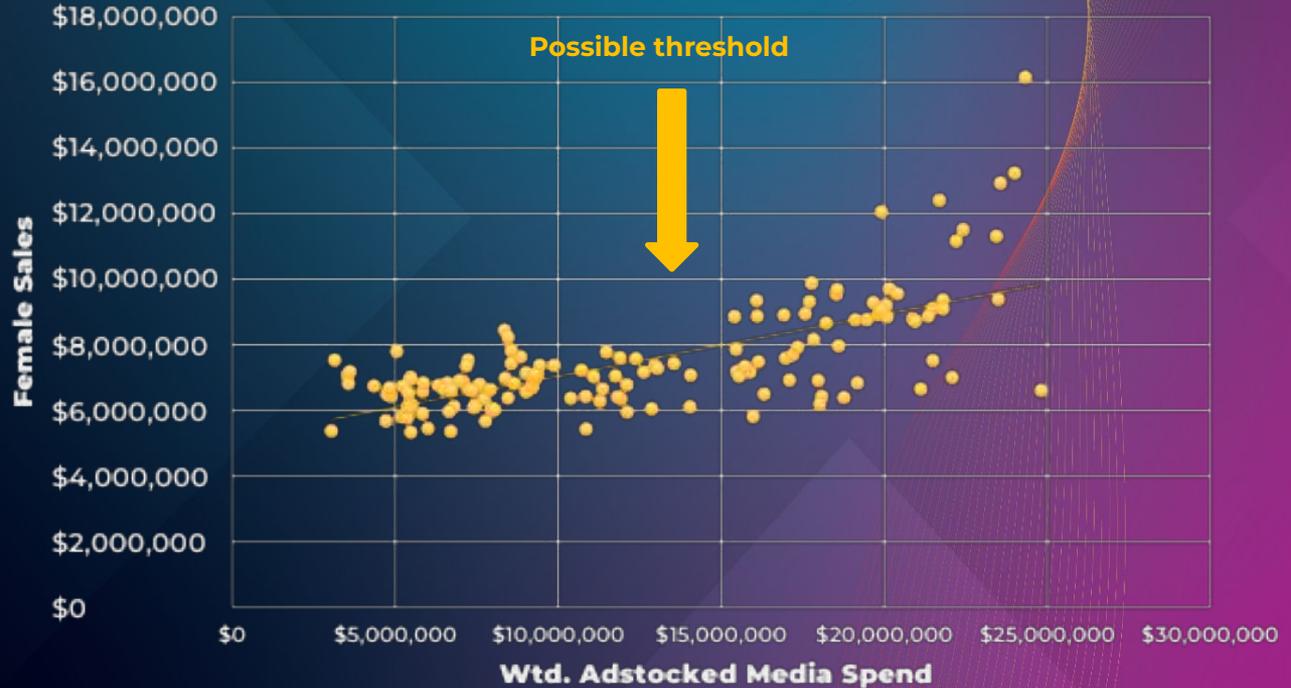
A \$5.9 million increase in ad spend drove a 6% year over year sales increase. As shown, most of this growth is coming from long-term ad effects. A positive and growing ABX Gender Equality Index drove 20% of the Genesis Stores' 15% sales growth among females.

Sales Variance "Due to"	Prior Year Level	Current Year Level	Gain & Loss (Annualized)	% Gain & Loss
Ad Spend (~3 Week Avg.)	\$11,898,170	\$17,803,538	\$20,626,126	
Media. Short-Term			\$5,156,532	1%
Media. Long-Term			\$15,469,595	5%
Wtd. ABX Message Index	105	110	\$1,185,895	0%
FM. Wtd. ABX Gender Index	106	111	\$11,643,102	3%
Base			\$24,760,387	6%

Correlating Drivers: Ad Spend

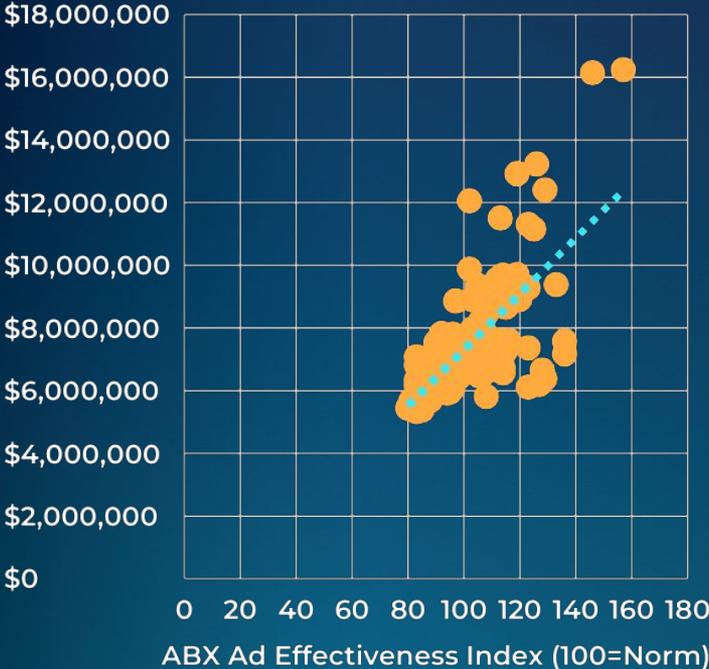
Higher Ad Spend does result in higher sales. There also appears to be a threshold level of weekly spend of about \$14 MM.

Ad Spend & Female Sales

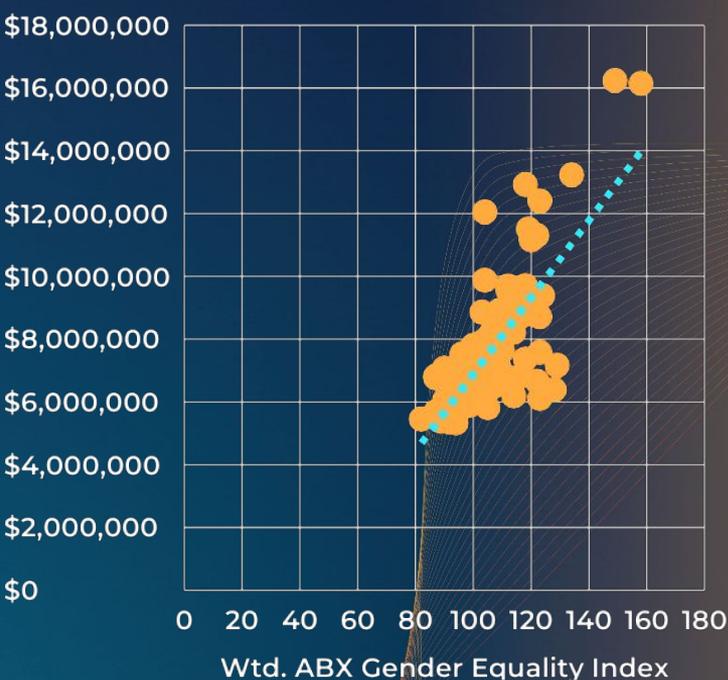


Correlating Drivers: Copy-Effectiveness and Gender Equality to Sales

Ad Copy Effectiveness & Female Sales



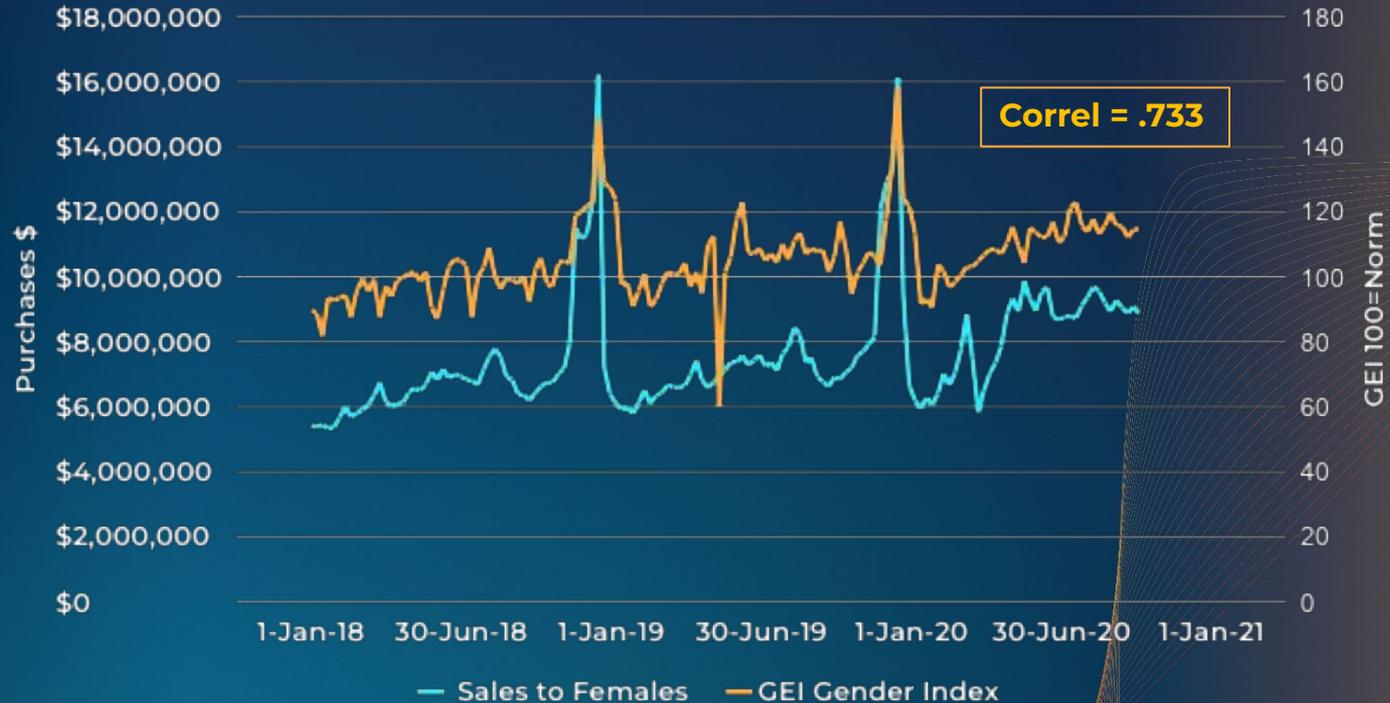
Wtd. Female Gender Index & Female Sales



ABX Gender Equality Index (GEI)TM

A Strong Connection Exists Between the Gender Equality Ratings & Sales for Females Over Time.

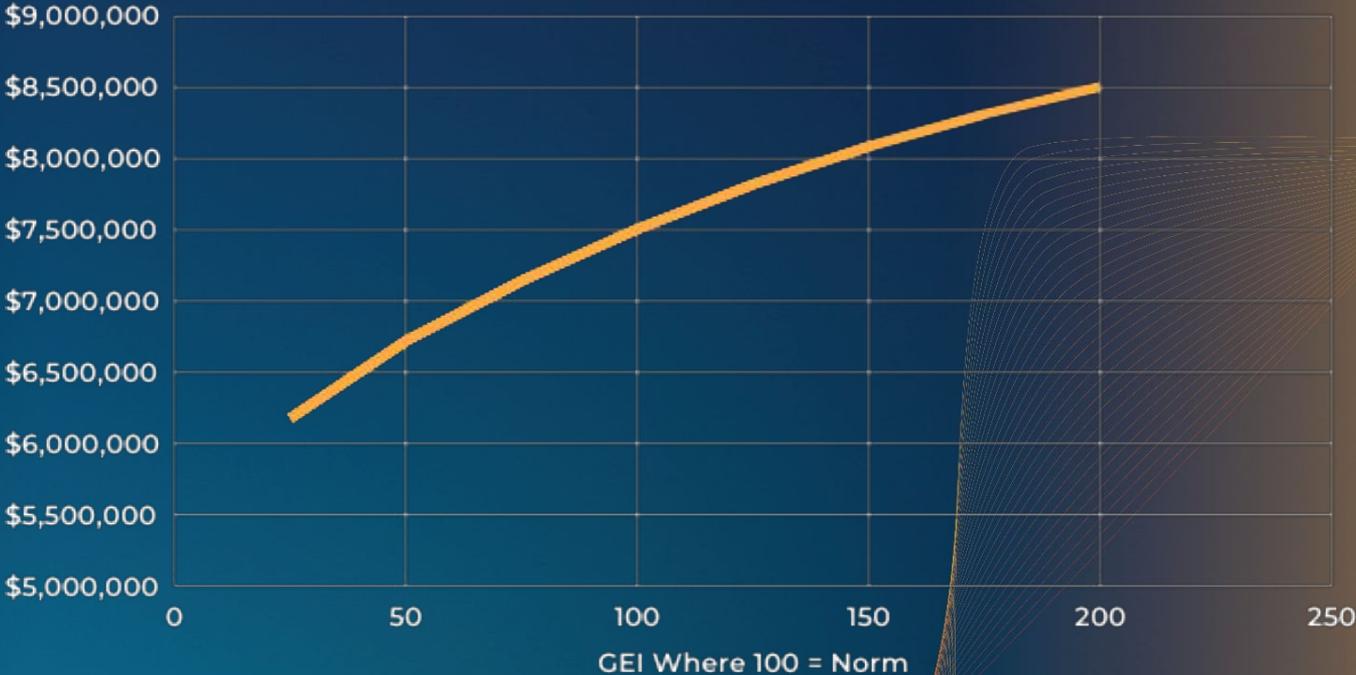
Gender Equality Index & Female Weekly Purchases



ABX Gender Equality Index (GEI)TM

ABX GEI for Advertising: Higher Scores Show Impact of More Favorable Ratings

Impact Due to Female Gender Equality Index (GEI)

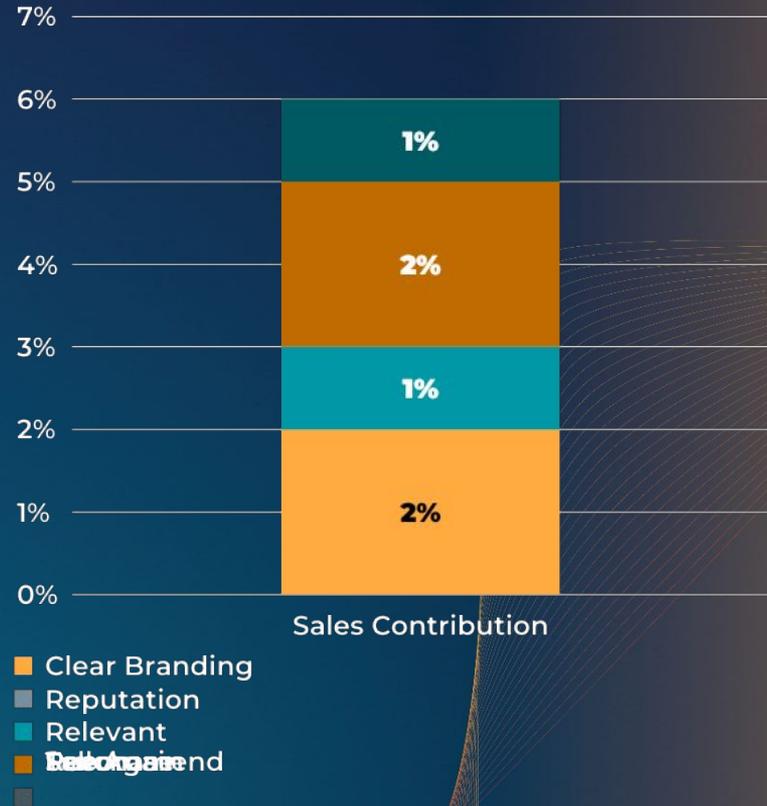


The impact of GEI is significant and informs us that how females are perceived in advertising has a large impact on how well that advertising performs.

Copy Effectiveness:

For ad creative to be effective among females, it must be relevant, interesting and contain strong & clear branding.

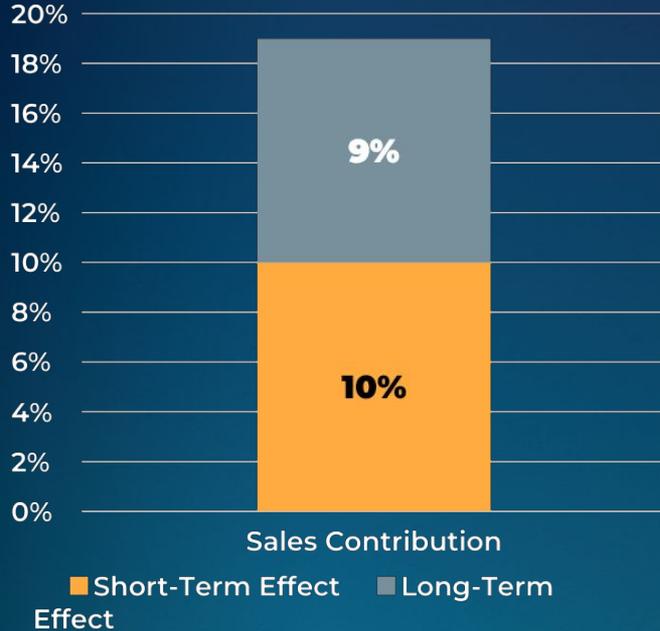
Media Message Component Contributions



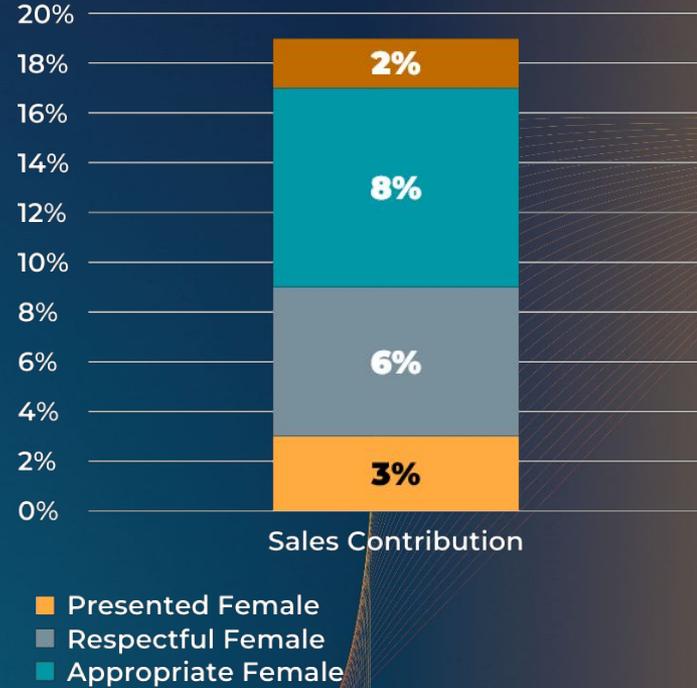
Advertising & GEI Derivatives

Advertising's impact is almost equal between Short- and Long-Term effects. Female Gender perceptions are driven by Messaging showing females in Positive, Respectful and Appropriate ways.

Media Spend Component Contributions



Female Gender Index Components



Business Implications

- The critical question addressed here is “does this really matter?” Are there real and measurable consequences for gender bias and is gender equality in advertising that important?
- This econometrics toolbox allowed close observation and modeling of female purchasing behavior.
- Not only do Gender Equality Perceptions have a measurable impact, they are sufficiently large enough to suggest that compliance is mandatory to maintaining and growing the business.
- To guard against adverse gender-issue publicity and sales impacts, each marketer needs to have a system for pre-screening their ads for any perceived bias and stereotyping prior to placing them in the market.
- Pre-testing and/or continual in-market testing through systems such as the **ABX Creative Feedback Loop™** would help ensure no missteps are made.

Let us give you
the creative
insights no one
else can deliver.

Contact us today

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