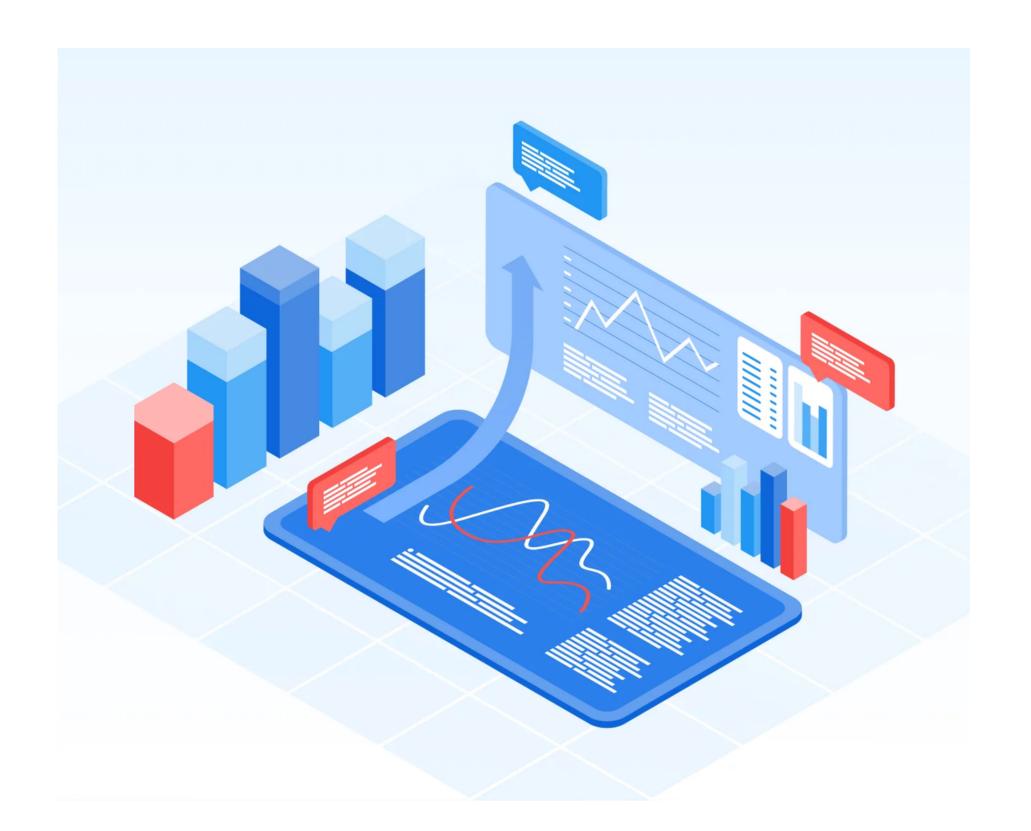# Digital Marketing Analysis with DAX

Problem Statement

As a Data Analyst at a Digital Marketing Agency, the primary objective is to optimize the performance of advertising campaigns across various platforms to achieve maximum return on investment (ROI) for clients.

To accomplish this, we have access to multiple datasets containing features related to ad campaigns, impressions, clicks, conversions, sales, and advertising budgets.
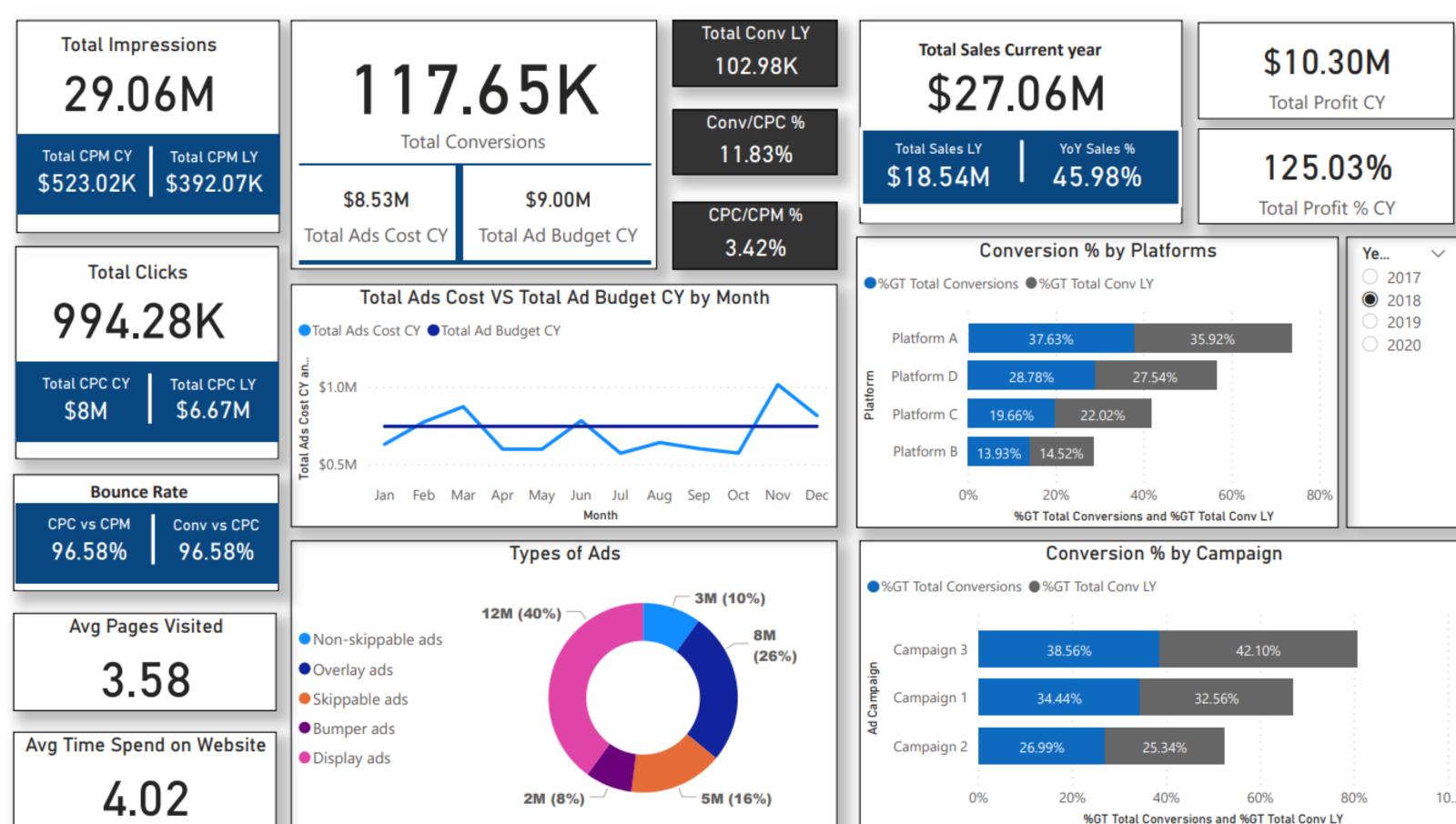
Analysis Objectives:

1. **Campaign Performance Analysis:** Evaluate the performance of each ad campaign by analyzing metrics such as impressions, clicks, conversions, and ROI across different platforms and ad formats.
2. **Platform Comparison:** Compare the performance of advertising campaigns across different platforms to identify the most effective platforms in terms of cost efficiency and conversion rates.
3. **Optimization of Ad Formats:** Determine the effectiveness of different ad formats (e.g., display ads, skippable ads) and optimize their usage to maximize user engagement and conversion rates.
4. **Budget Allocation Optimization:** Optimize the allocation of advertising budgets across campaigns, platforms, and ad formats to achieve the highest possible ROI while meeting sales targets.

Analysis Objectives:

1. **Temporal Analysis:** Identify temporal patterns and seasonality trends in ad performance to optimize campaign scheduling and budget allocation throughout the year.

2. **User Engagement Analysis:** Analyze user engagement metrics such as average pages visited and average time on site to understand the quality of traffic driven by advertising campaigns and optimize targeting strategies accordingly.

3. **Cost Efficiency Analysis:** Evaluate the cost efficiency of advertising campaigns by analyzing metrics such as CPM and CPC, identifying opportunities to reduce costs while maintaining or improving campaign performance.
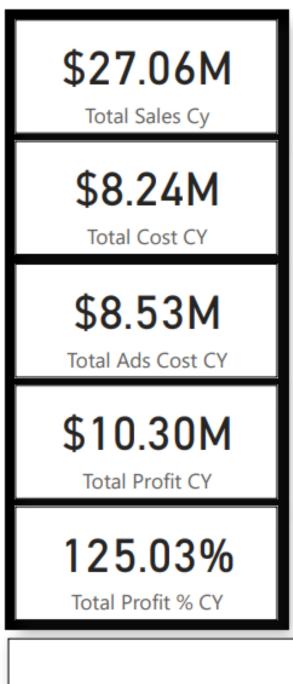
Marketing Analysis

Total Impressions
29.06M

Total CPM CY	Total CPM LY
$523.02K	$392.07K

117.65K
Total Conversions

$8.53M	$9.00M
Total Ads Cost CY	Total Ad Budget CY

Total Conv LY
102.98K

Conv/CPC %
11.83%

CPC/CPM %
3.42%

Total Sales Current year
$27.06M

Total Sales LY	YoY Sales %
$18.54M	45.98%

$10.30M
Total Profit CY

125.03%
Total Profit % CY

Total Clicks
994.28K

Total CPC CY	Total CPC LY
$8M	$6.67M

Bounce Rate

CPC vs CPM	Conv vs CPC
96.58%	96.58%

Avg Pages Visited
3.58

Avg Time Spend on Website
4.02

Total Ads Cost VS Total Ad Budget CY by Month

- Total Ads Cost CY
- Total Ad Budget CY

Conversion % by Platforms

- %GT Total Conversions
- %GT Total Conv LY

Platform	%GT Total Conversions	%GT Total Conv LY
Platform A	37.63%	35.92%
Platform D	28.78%	27.54%
Platform C	19.66%	22.02%
Platform B	13.93%	14.52%

Year filter:
- 2017
- ● 2018
- 2019
- 2020

Types of Ads

- Non-skippable ads
- Overlay ads
- Skippable ads
- Bumper ads
- Display ads

12M (40%), 3M (10%), 8M (26%), 5M (16%), 2M (8%)

Conversion % by Campaign

- %GT Total Conversions
- %GT Total Conv LY

Ad Campaign	%GT Total Conversions	%GT Total Conv LY
Campaign 3	38.56%	42.10%
Campaign 1	34.44%	32.56%
Campaign 2	26.99%	25.34%

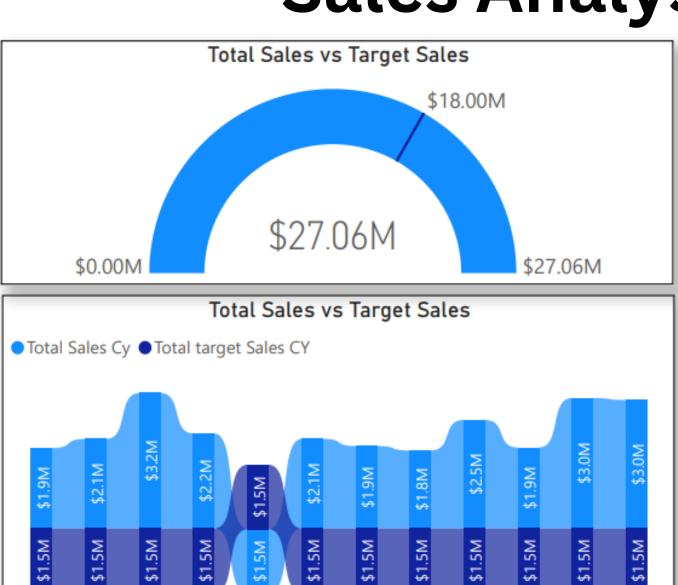# Marketing Analysis Insights

- **Total conversions are significantly higher than total sales revenue.** This is likely because the average conversion rate is higher than the average order value. In other words, more people are converting on the ads than are making a purchase. This could be due to a number of factors, such as the ads being effective at generating interest but not necessarily at driving sales, or the products or services being sold being expensive or complex.
- **The cost per click (CPC) is lower than the cost per mille (CPM).** This means that it is cheaper to get someone to click on an ad than it is to show them the ad 1,000 times. This is a good sign, as it means that the ads are being targeted to the right people and that they are effective at generating clicks.
- **The conversion rate is highest for platform A.** This means that platform A is the most effective at driving conversions. This could be due to a number of factors, such as the platform's targeting capabilities, the creative of the ads, or the placement of the ads.
- **The bounce rate is highest in January and December.** This means that more people are leaving the website without converting in these months. This could be due to a number of factors, such as the seasonality of the business, the quality of the website, or the relevance of the ads.
- **The average time spent on website is highest for campaign 2.** This means that people are more engaged with the content on campaign 2. This could be due to a number of factors, such as the quality of the content, the relevance of the content to the target audience, or the length of the content.

Sales Analysis

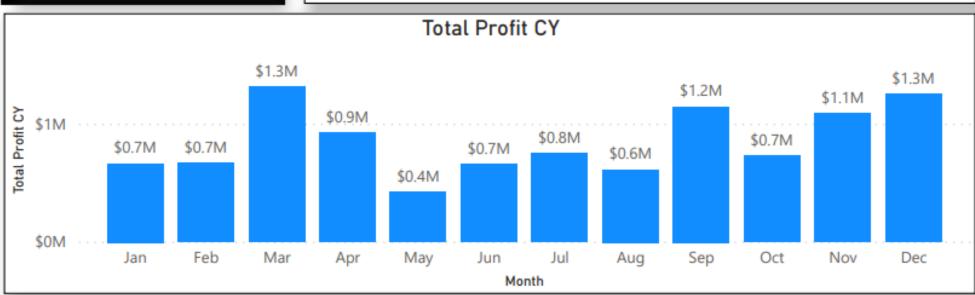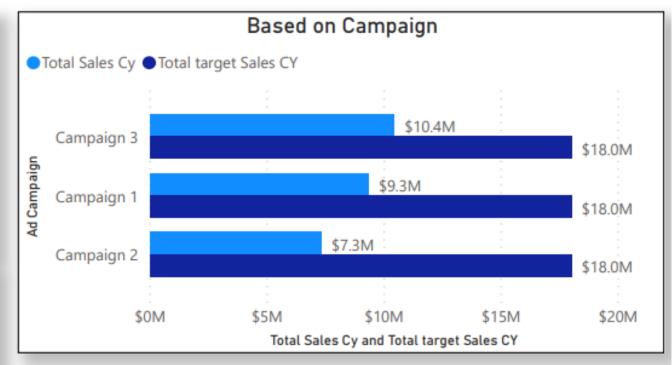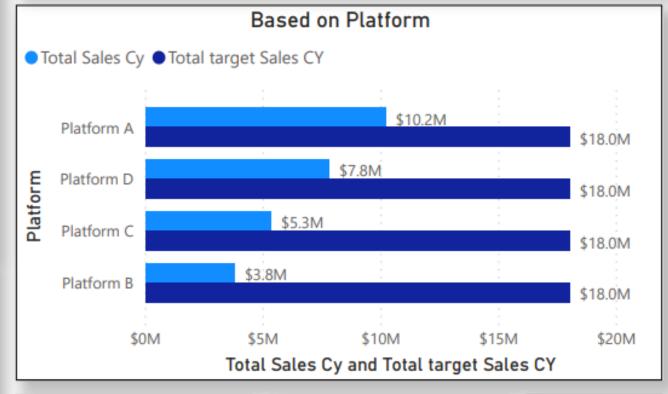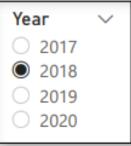|	
$27.06M Total Sales Cy	
$8.24M Total Cost CY	
$8.53M Total Ads Cost CY	
$10.30M Total Profit CY	
125.03% Total Profit % CY	

Total Sales vs Target Sales

$18.00M

$27.06M

$0.00M $27.06M

Total Sales vs Target Sales

- Total Sales Cy
- Total target Sales CY

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total Sales Cy	$1.9M	$2.1M	$3.2M	$2.2M	$1.5M	$2.1M	$1.9M	$1.8M	$2.5M	$1.9M	$3.0M	$3.0M
Total target Sales CY	$1.5M	$1.5M	$1.5M	$1.5M	$1.5M	$1.5M	$1.5M	$1.5M	$1.5M	$1.5M	$1.5M	$1.5M

Based on Campaign

- Total Sales Cy
- Total target Sales CY

Ad Campaign	Total Sales Cy	Total target Sales CY
Campaign 3	$10.4M	$18.0M
Campaign 1	$9.3M	$18.0M
Campaign 2	$7.3M	$18.0M

Total Sales Cy and Total target Sales CY

Based on Platform

- Total Sales Cy
- Total target Sales CY

Platform	Total Sales Cy	Total target Sales CY
Platform A	$10.2M	$18.0M
Platform D	$7.8M	$18.0M
Platform C	$5.3M	$18.0M
Platform B	$3.8M	$18.0M

Total Sales Cy and Total target Sales CY

Total Profit CY

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total Profit CY	$0.7M	$0.7M	$1.3M	$0.9M	$0.4M	$0.7M	$0.8M	$0.6M	$1.2M	$0.7M	$1.1M	$1.3M

$18.00M Total target Sales CY

117.65K Total Quantites Sold CY

Year
- ○ 2017
- ● 2018
- ○ 2019
- ○ 2020

Sales Insights

- **Overall sales are above target.** Total sales for the year were $27.06 million, which is 150.3% of the target of $18 million.
- **Sales are up year-over-year.** Total sales in 2020 were $27.06 million, compared to $18 million in 2019. This is an increase of 50.4%.
- **Campaign 3 is the top-performing campaign.** Campaign 3 had sales of $10.4 million, which is 38.8% of total sales. It also exceeded its target of $9.3 million by 118%.
- **Platform A is the top-performing platform.** Platform A had sales of $10.2 million, which is 37.7% of total sales. It also exceeded its target of $18 million by 46.7%.
- **Profit is also up year-over-year.** Total profit for the year was $50.7 million, compared to $117.65 thousand in 2019. This is an increase of 42,978.4%.