JUNE, **20**/20

POLARIS ***REVEALS***

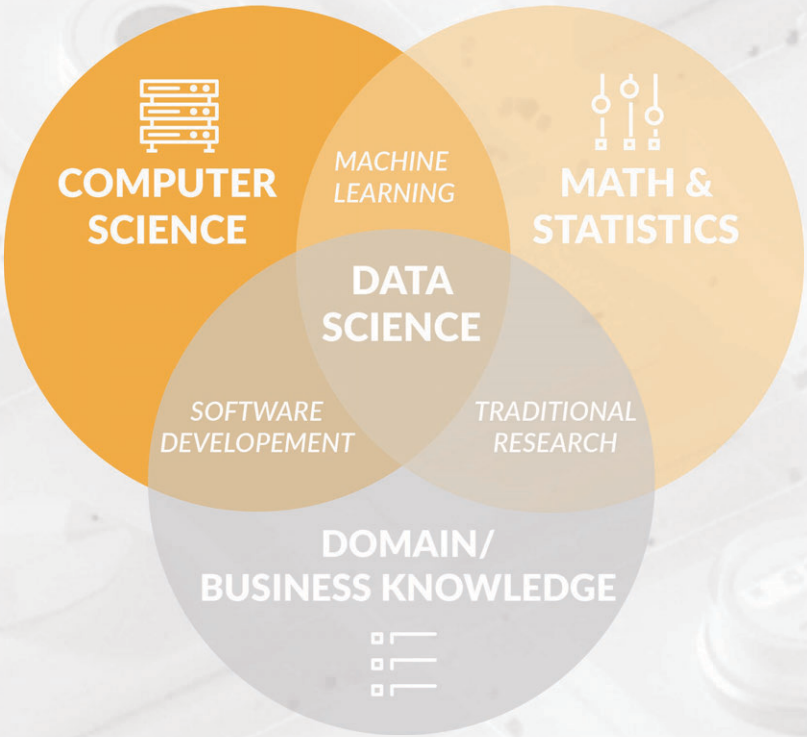
DATA SCIENCE

FOR HIGHER EFFECTIVNESS

OF MARKETING & COMMUNICATIONS

DATA *SCIENCE*

Data science revolves around the interpretation and analysis of data coming from different sources, types, and structures. Various scientific methods, processes, algorithms and front-end solutions are being fed, on a regular basis, with countless rows of data in order to extract valuable patterns of behavior, insights or new information.



Data Science *in Marketing*

When it comes to applying data science in marketing, its goal is to provide new insights that let companies know if their decisions have paid off. These powerful trends can help brands dig deeper by scientifically quantifying correlation between investments, results, consumer behavior, preference... This will in turn, enable business strategists to optimize investments, improve efficiency, reach narrower target audiences, pick the right creatives, leading to significant improvement in media planning and cost-efficiency.

Basically you can model anything....

Our expertise and proprietary tools allow us to understand and analyze millions of data quickly and find patterns.

What drives sales, visit to stores, brand awareness, searches, app downloads, applications for mortgages, total mobile traffic...?

Statistical methodology to establish correlation between variables and how they all influence the sales/brand awareness result.

Is it price, season, influencers, Instagram, TV, YouTube, Campaign1, Campaig2, newsletters, leaflets, events, sponsorships?

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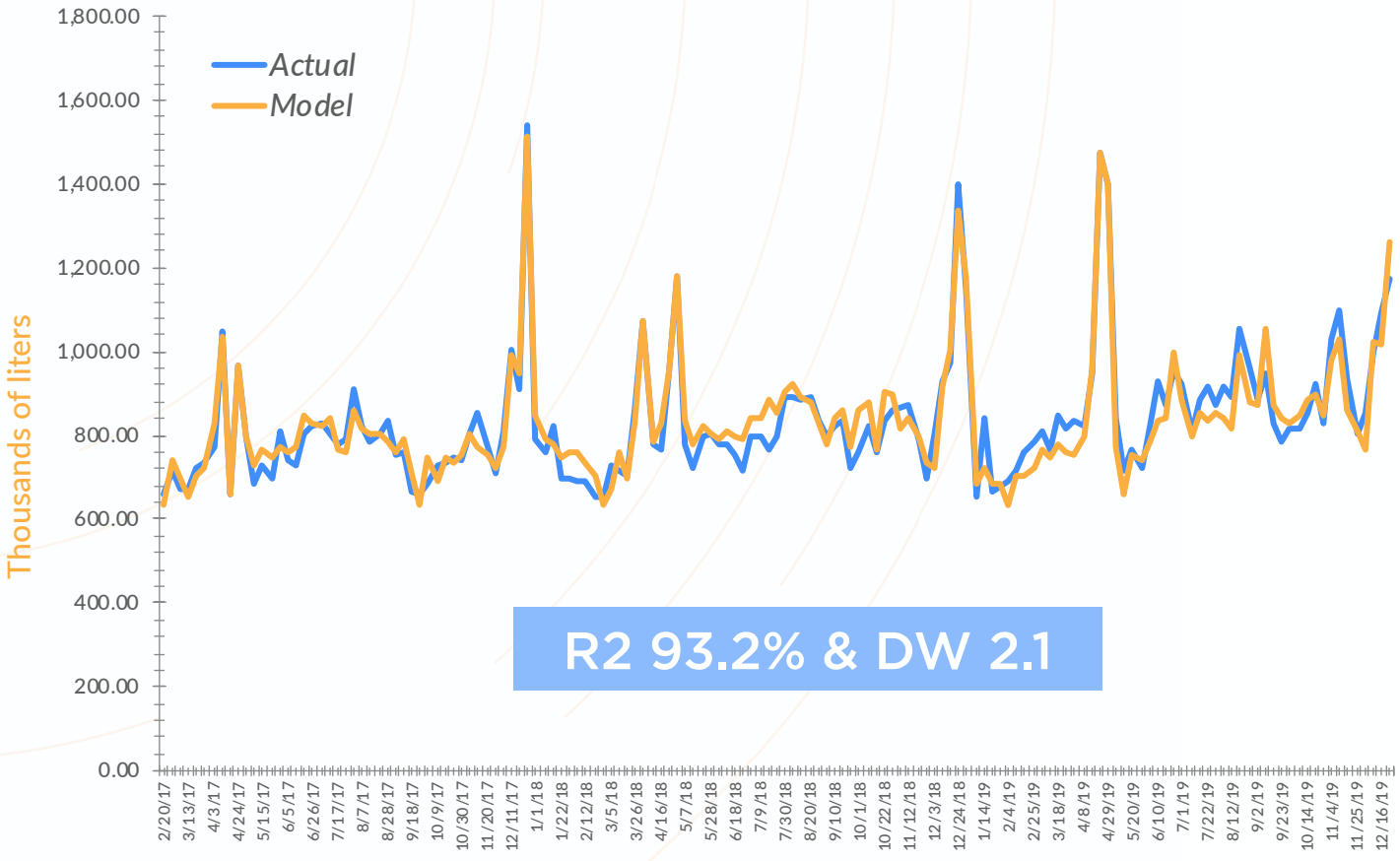
Combining advertising data and investments, marketing activities and external elements, models explain which variables contribute sales.

Here are some of the commonly used variables for modeling:

Model *Fit*

How well the model fits on historical sales volume?

The model fit shows, throughout time, the percentage of desired KPI and its variability (e.g. sales value) that was obtained using variables from dataset. The closer this number is to 100%, the better. In this example, using selected variables, our model fits the historical volume data at 93.2%, meaning it should successfully predict future sales. We can use this model further for media optimization (budget allocation) to accurately achieve the desired percentage or absolute increase in sales or in brand awareness.



R2 93.2% & DW 2.1

R2 is a measure that shows how good the model explains/predicts sales. Max value is 100%.
DW is a measure telling how good is the model quality. The closer the DW to 2 the better.

Model *Output*

How do we interpret the media contributions?

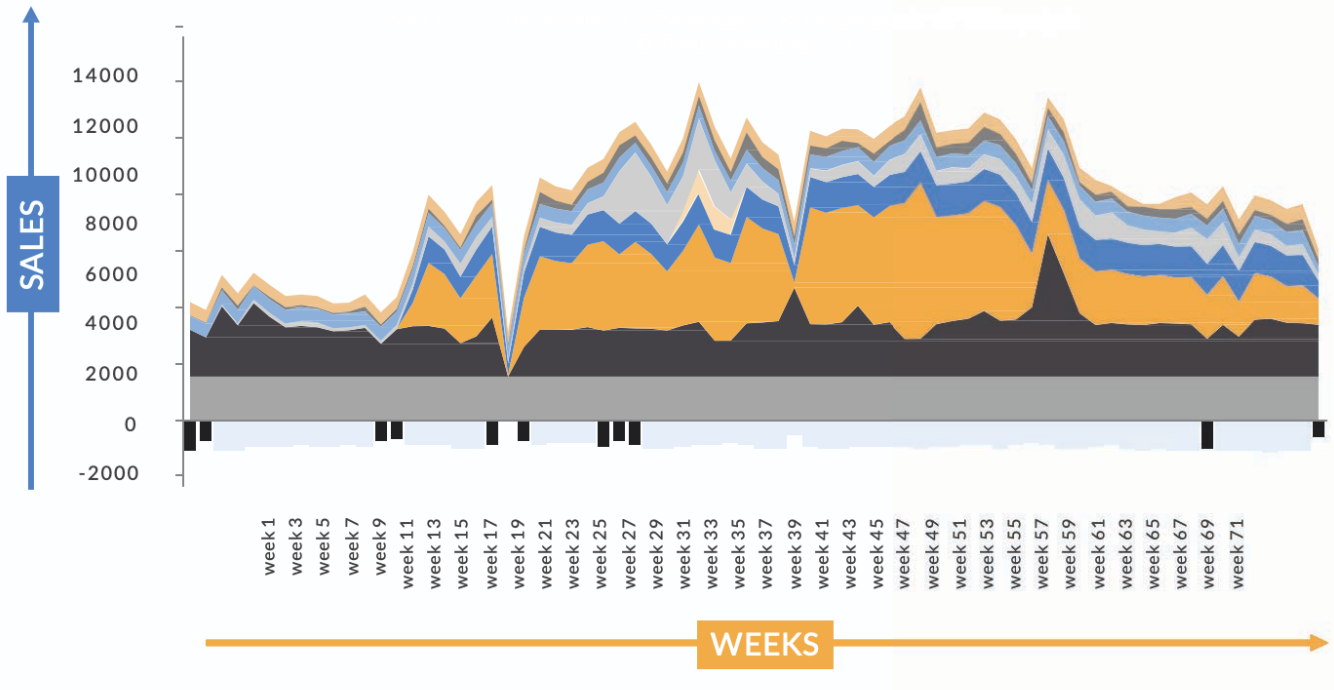
The model output shown in the right example clearly lists the % contribution to sales, each variable from the model has. We can see that Facebook investments brought in 6.7% of the brand sales, while affiliates brought in 3.5%.

The bellow visual shows us how those sales contributions vary through time depending upon different seasonal factors or the intensity of their media presence.

Such knowledge can help brands understand the effectiveness of their media spends and make informed decisions about future budgets.

Contributions:

Variable	Contribution in sales volume
Positioning	6.7%
Affiliates	3.5%
Facebook	6.7%
Display	7.7%
Radio	0.5%
TV Brand	11.9%
TV Promotional	29.1%
Seasonality	26.7%
Base Sales	21.1%
Competitors	-13.8%




EXAMPLES
OF
DATA SCIENCE
USAGE
IN
MARKETING
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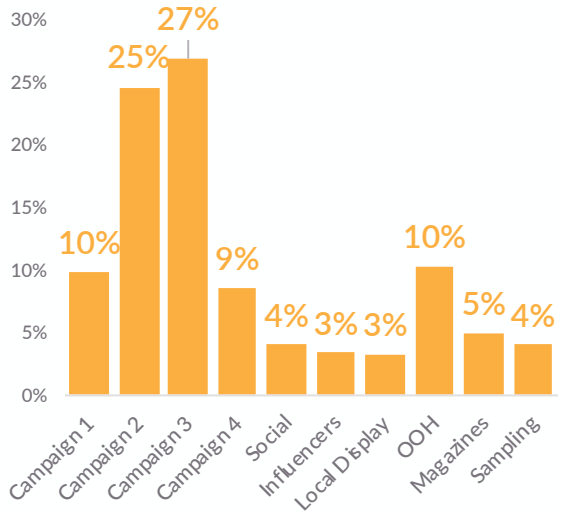
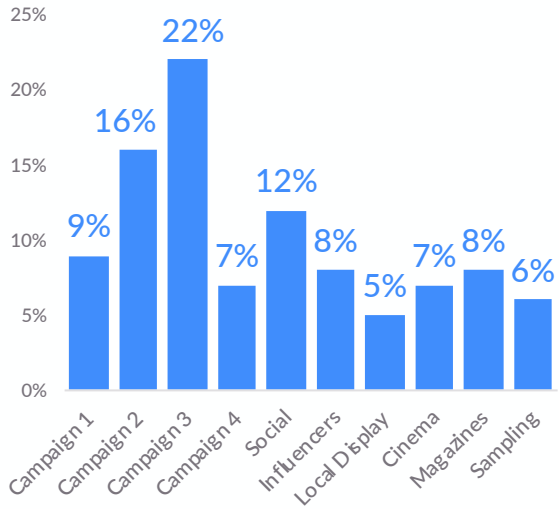
1. Identifying the importance *of channels or activities*

Using a time series model, a data scientist can compare and identify accurately how much does each channel or activity bring into sales. This can be highly beneficial as it show the marketer exactly which channels are delivering proper returns and which channel is underperforming. We can also see the correlation between the price, promotions and advertising investments.

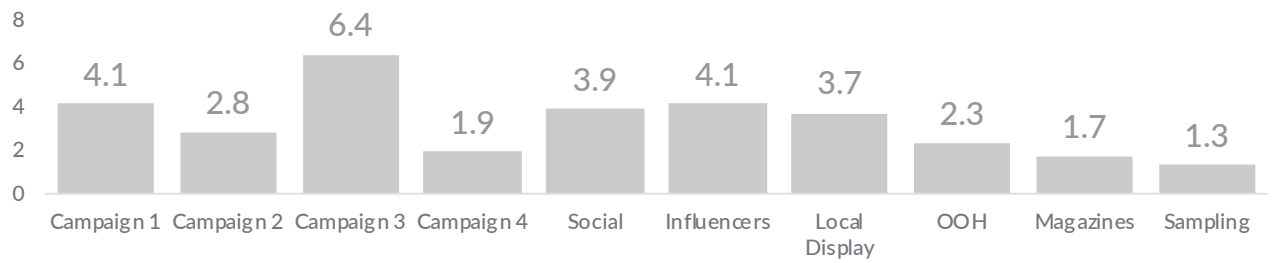
What is the best performing medium of communication?



Spent (% of total)



Sales Contribution (% of total)



Short Term ROI (EUR)

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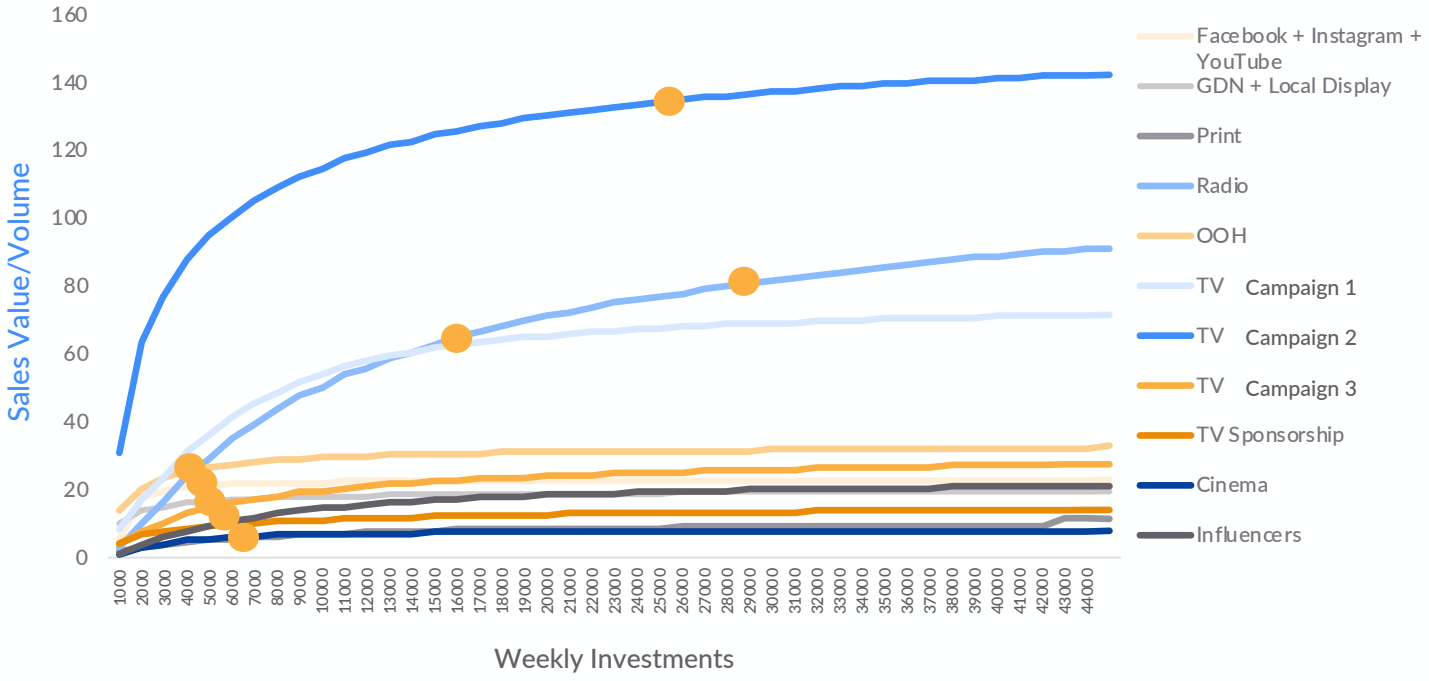
2. *Budget optimization*

The main goal of every marketer is to drive maximum ROI across investments. Achieving this with common sense is always tricky and time-consuming.

The model can help marketers distribute their budget smartly across communications, channels, media to optimize for achieving their sales targets on weekly levels.

Through models we can understand how weekly investments in advertising drive sales and when they are not paying off any longer across any media channel or type of activity.

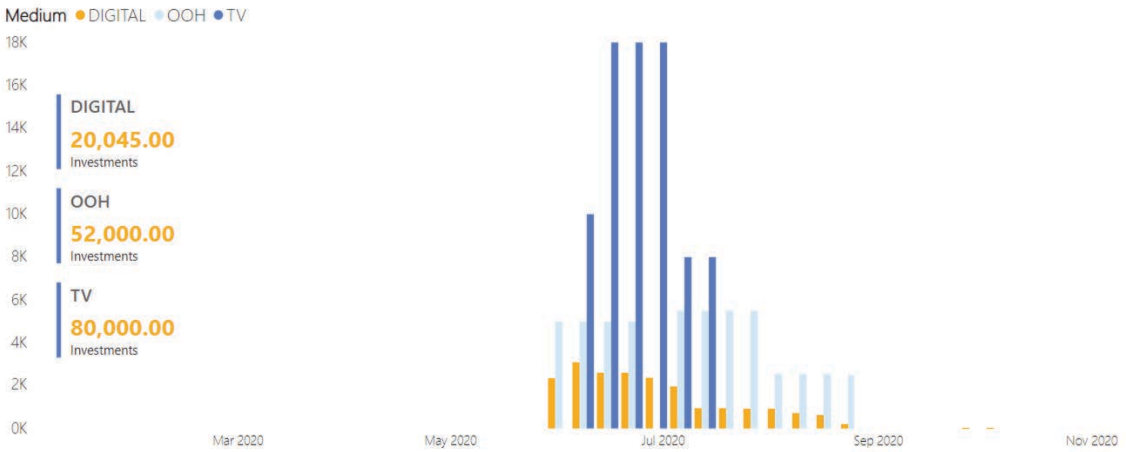


3. Sales *forecasting*

The ROI curves based on the model can help brands greatly in improving their media planning process, as they give companies the ability to forecast future sales based on the tested media spent levels for each medium.

The modeling software equips media planners or decision makers with powerful tool for optimizing the budgets according to the desired levels of sales or brand awareness.

Furthermore, this newly improved planning process lowers the workloads of the media teams by automatically deriving different optimal combinations of media mixes out of thousands of possible combinations. This gives planners the flexibility to choose the one which fits best by simultaneously testing different media scenarios for the future.



4.Statistical *Matching*

Statistical matching methods aim at integrating two or more data sources related to the same population segment in order to derive a unique synthetic data set and generate completely new insights.

The basic idea is to link different individuals from two or more different surveys based on the level of match in their demographics, preferences, and lifestyle choices.

The end results is synthetic dataset connecting the content of both surveys by joining the answers of the matched individuals. The word synthetic refers to the fact that the records are obtained by integrating the available data sets rather than direct observation of all the variables.

1.

DATASET 1 DATASET 2 DATASET 3

=

2.

SYNTHETIC DATASET
AFTER IMPUTATION

3.

INTEGRATED DATA SOURCE

We are creating a single consumer view from 2-3 different sources by matching similar individuals.

The new unified database clusters audiences by buyer behavior, attitudes & lifestyle choices, making it easy for brands to understand their consumer base.

5.Dashboards

Dashboards provide a centralised location for users to access, interact and analyse up-to-date information so they can make smarter, data-driven decisions. Good dashboards & reporting system enables companies to monitor and measure performance and metrics in real-time and on the go. Brands can visualize and analyse data and focus on Key Performance Indicators (KPIs) from across the organization, helping them gain valuable insights and drive quick and accurate decision making.

Dashboards are the best way for brands to quickly understand and learn from past activities!

AUTOMATED WEEKLY & MONTHLY REPORTS

INTEGRATES ALL YOUR BRAND DATA FROM MULTIPLE OFFLINE & ONLINE SOURCES

FULLY CUSTOMIZED FRONT END VISUALS AND DATA FILTERS

They can house multiple data sources and integrate them into single interactive page, real-time, allowing for ad-hoc business decision making, tracking of competitors or efficient media planning.

Data Science *in Polaris*

We at Polaris, have successfully built and tested numbers of sales models, which help companies plan the future investments by identifying their leading sale indicators and calculating optimal investments to improve their profit margins.

We have come a long way in building synergy between the technical and business side of data science, in order to come up with products and solutions which can offer companies better segmentation of their user base, more powerful advertising, advanced social media marketing, more precise results management and understating of key metrics.

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