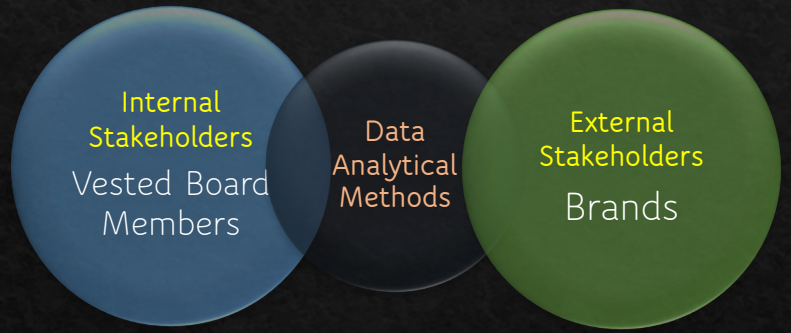
Data Visualization

1a. Insight-driven vs. Intuition-driven Solutions



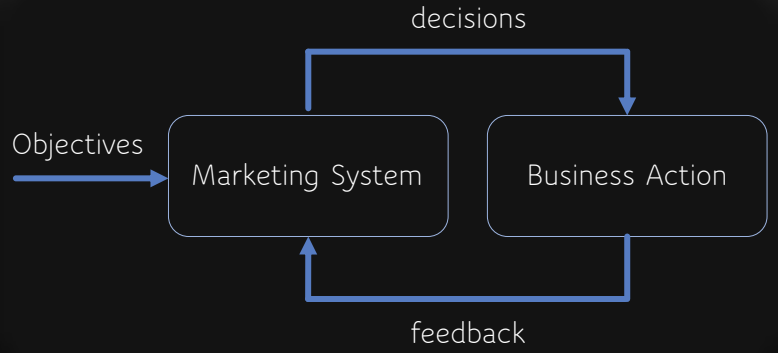


Figure A.

Concerns & Objectives

Brand Retention

- Brands discontinue re-targeting program due to initial false expectations. Low program conv. rate
- New marketing channel, Effectively provide measurement on Performance
- New Channel: Attribution

BI Solutions

Key Performance Goals

- Set Proper Key Performance Indicators, building vertical benchmarks
- Performance Review Cadence 30/60/90 days
- Tracking, Attributing & Incrementality

Measured Results

Brand Performance Review

- ✓ Actual performance KPI has revealed projected metrics
- ✓ Dashboard automation of performance
- ✓ Effective tracking methods led to brand confidence

Above provides a framework presented to internal stakeholders (Investors) on BI's successful solutions to key business objectives. Of which, many of those objectives followed the same desired driving points for external stakeholders (Brands).

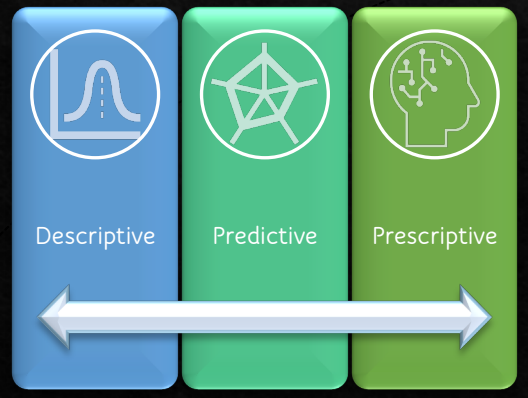
Brands frequently provide additional ad-hoc requests outside the standardized framework, an essential component when translating technical aspects of analysis/metrics into understood actionable insight.

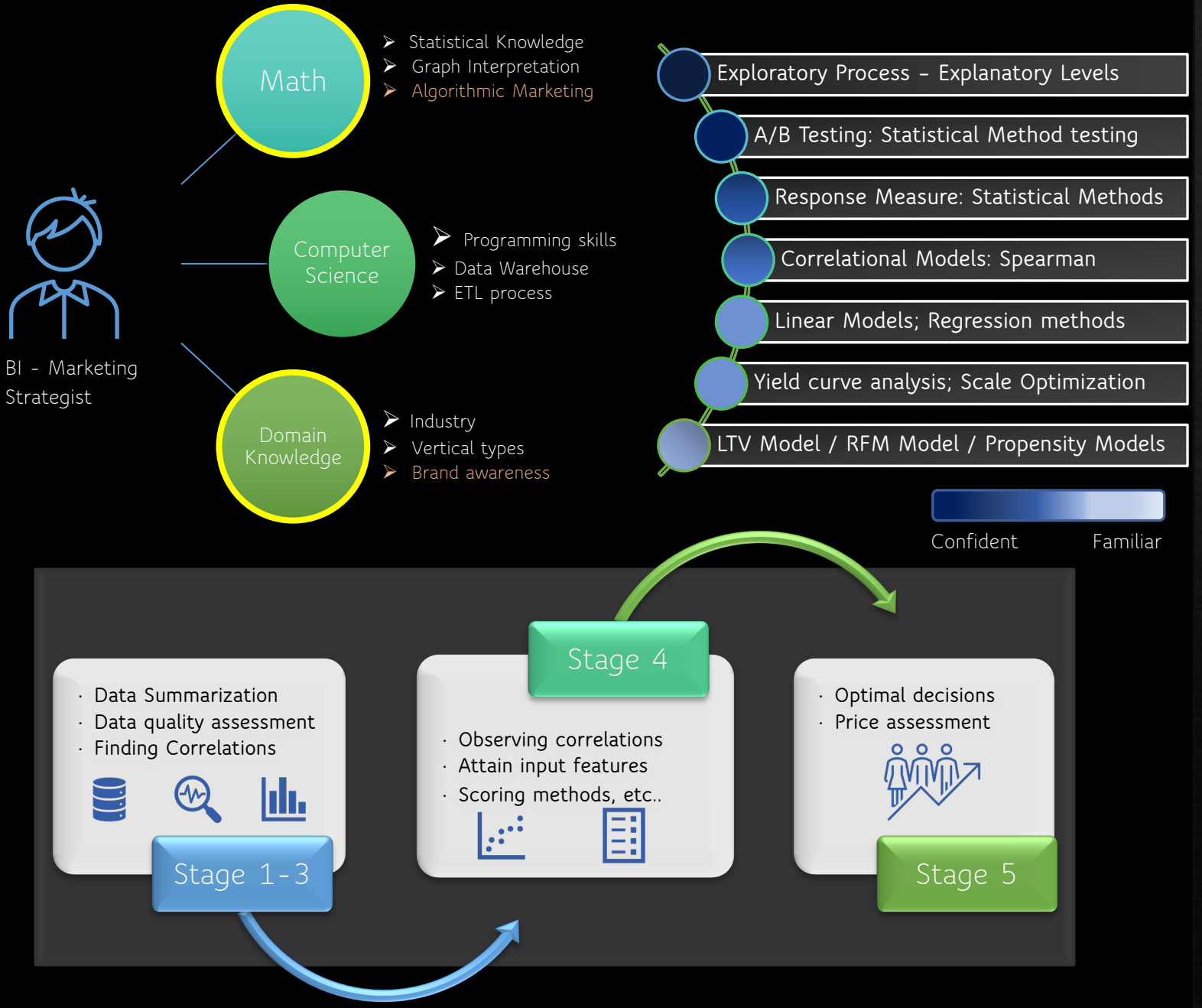
Data Visualization

1b. Statistical/Scientific methodologies

As a BI Marketing Strategist, understanding that algorithmic marketing definitions cannot exist without a methodology for the evaluation of possible business actions and corresponding outcomes based on available data is key.

In the MarTech domain, terminologies used in business applications for data analytics methods are often categorized, at high level, as below:

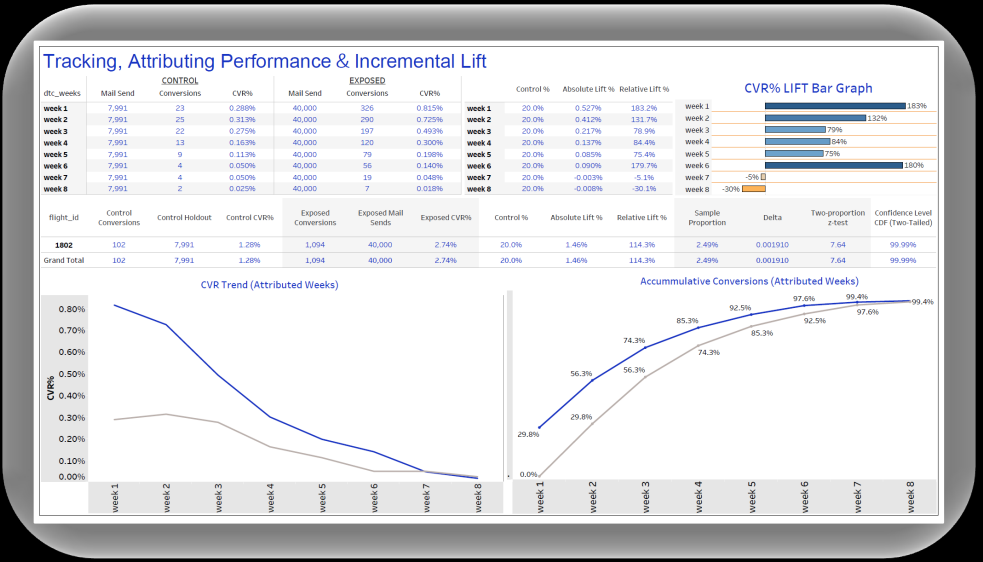




Data Visualization

1a. Expanding one's analysis on data-driven insights and solutions for brands

- Screenshot image on the right touches on built performance tracking automation using statistical methods of uplift modeling for decision making. (Tableau)



Statistical Methods, i.e. hypothesis tests, are essential in telling the story. However, expanding the analysis can occasionally reveal there to be lack of practical significance when it comes to insightful decision making.

flight_id	Control Conversions	Control Holdout	Control CVR%	Exposed Conversions	Exposed Mail Sends	Exposed CVR%	Control %	Absolute Lift %	Relative Lift %	Sample Proportion	Delta	Two-proportion z-test	Confidence Level CDF (Two-Tailed)
1802	102	7,991	1.28%	1,094	40,000	2.74%	20.0%	1.46%	114.3%	2.49%	0.001910	7.64	99.99%
Grand Total	102	7,991	1.28%	1,094	40,000	2.74%	20.0%	1.46%	114.3%	2.49%	0.001910	7.64	99.99%

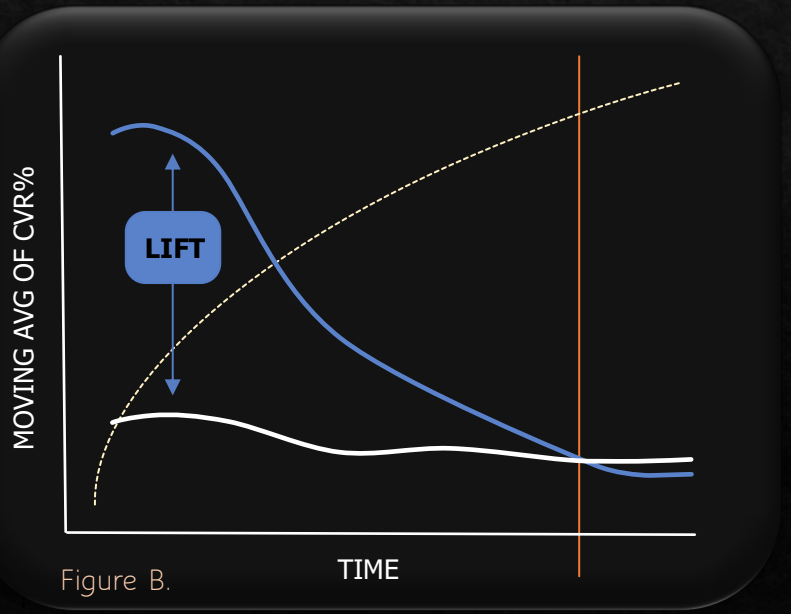
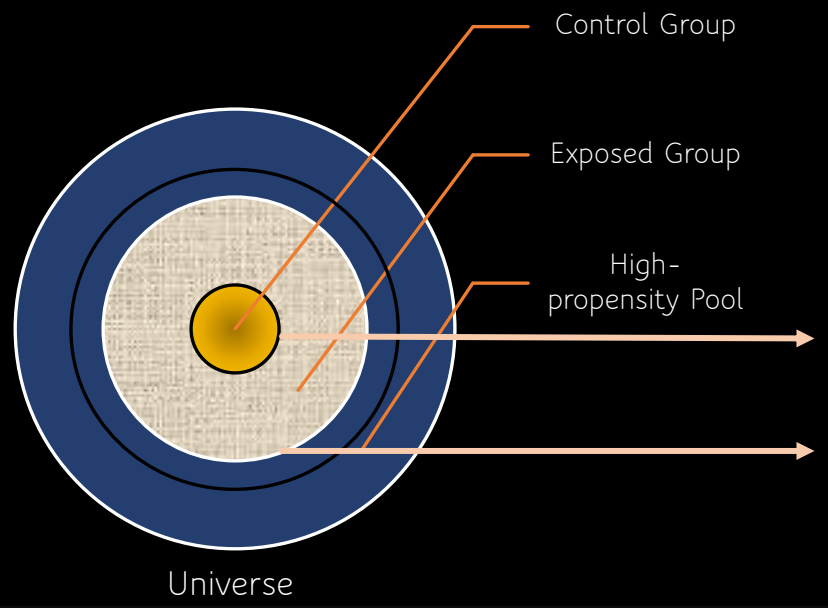
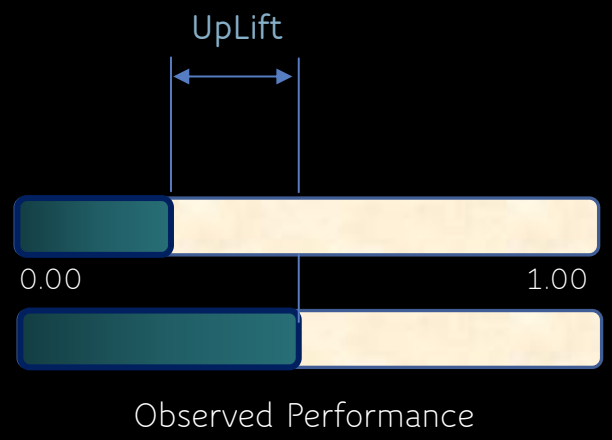


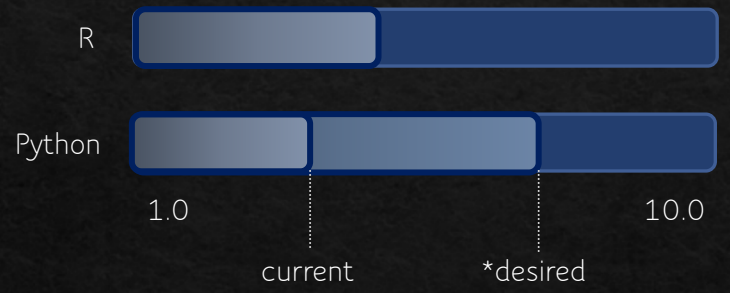
Figure B.





Programming Languages

2b. Experience and preference on scripting languages



*Greater interest to continue in learning Python with aspirations in reaching the desired scale by end of year.

Additional example in expanding data analysis for achieving informed insights via R.

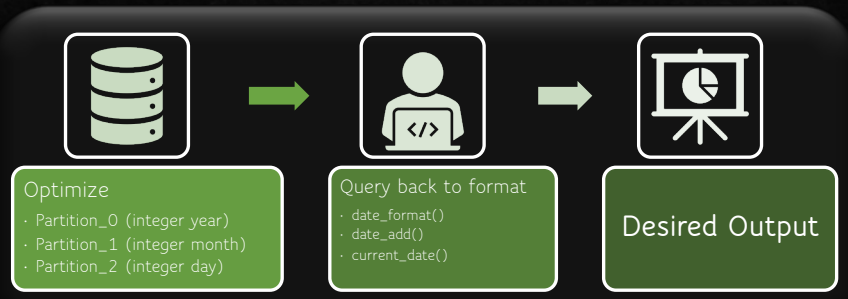


Diagram Y.

2a. Experience using SQL for ETL and/or data analysis.

Currently, all data is encrypted and stored within company-built infrastructure on AWS/S3. For additional safety storage and scale, PostgreSQL is utilized when querying for both ETL and analysis. Current performance reports and any data features needed for most ad-hoc insights are queried via Postgres. In building KPI goal projections for brands, with JavaScript onsite, daily live features are directly queried via Athena from S3.

4. Complex functions used in SQL for analysis and/or ETL purposes.

For ETL purposes, most common SQL operators used are UNION and JOINS. For more complex functions when running analysis, which can involve collaborating with Data Science for similar projects at times, are attaining average values within a given time frame, count most distinct ids to attain uniqueness, Casting/converting by rounding a built calculation when needing to measure the percentage as a decimal. Needing to return the first, last, min, max or even summing values are crucial and most used when building calculations via SQL.

5. SQL querying for optimization/performance tuning.

Optimization and performance tuning is a crucial part when referring to scale for building out automated performance measurement pipelines or for quick turn arounds on ad-hoc analyses. One example, with the intension behind cost efficiency, was to include additional "partition" fields/columns in Athena tables most used for querying based on specific dates. This allowed for a quicker way in attaining the data sets in question. Diagram Y. Sometimes the simplest conditional statement can make a world of difference.

Responsibility Measurement

3. Time broken down by percentage among responsibilities

The analytics team is an integral part to company performance overall. Essential in bridging the gap between core product development knowledge and business objectives that strive for success.

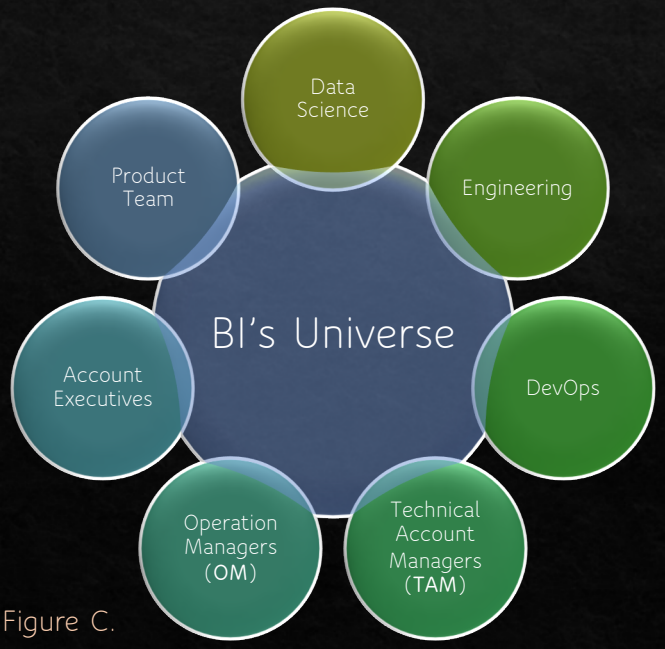
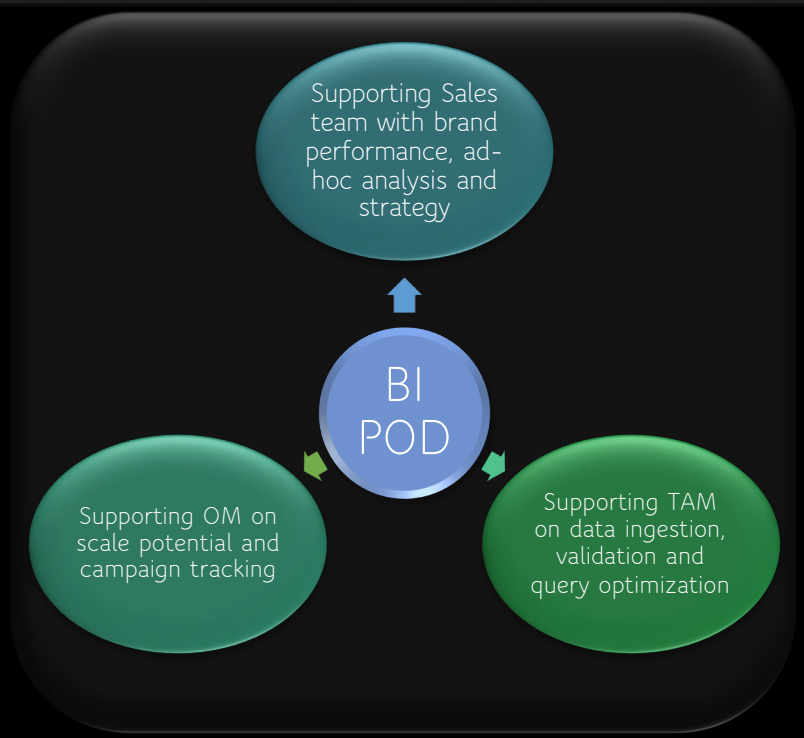
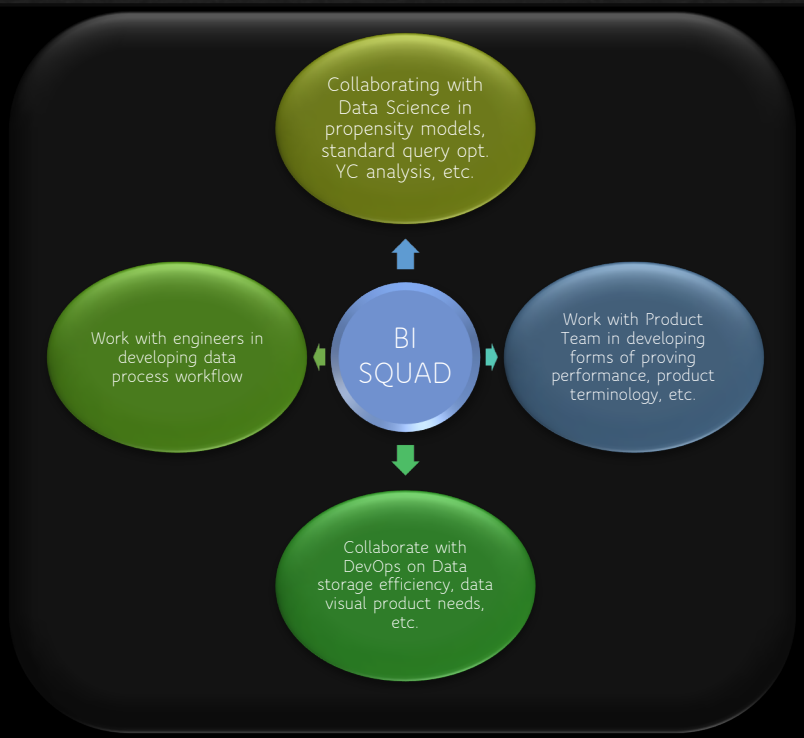
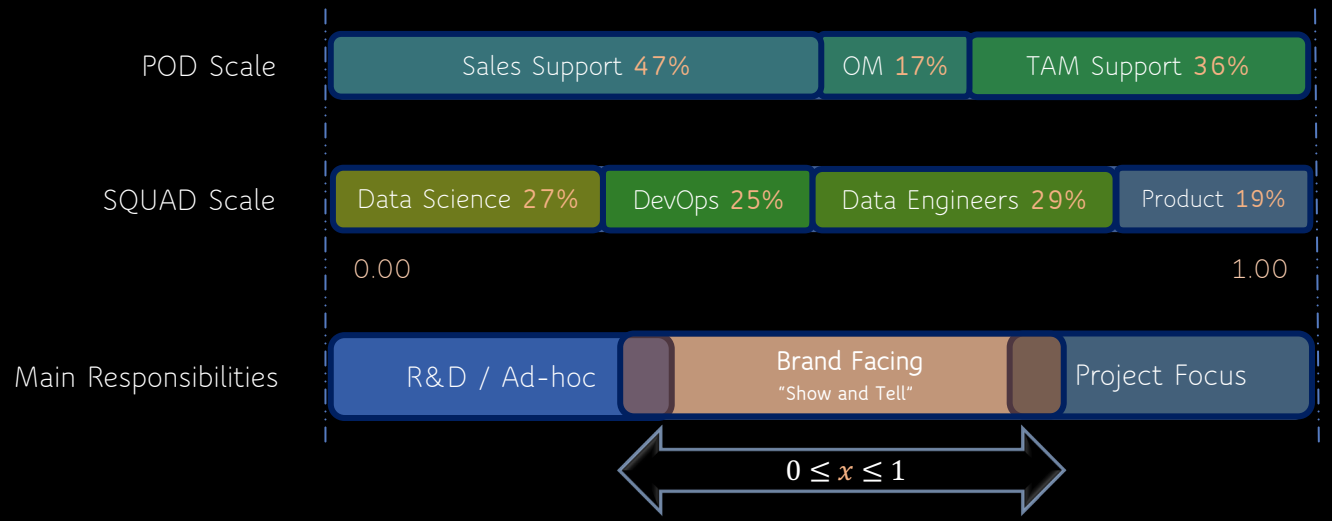


Figure C.





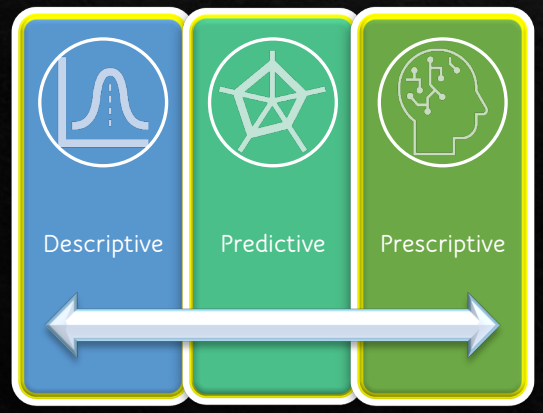


Data Used to Inform Decision Making

6. Taking the analytical stage approach to inform useful decisions

Market Penetration Research Analysis

The objective of this study was motivated by the request of a brand invested within the furniture retail market. The presented analysis reflects both an underlining assumption of either purchasing an existing retail furniture store or potentially opening a new location.



Business Challenge

- Identify key regional market for home furniture store. Find out where product service is most relevant.

Key Finds

- Found Key market regions within the tri-state area
- Two Part approach: 1) Spearman Correlation on Consumer Segmentation to RFM model. 2) Eight Variable Scoring model.

Decisions Taken

- Key geo-specific regions and test geo-specific creative against target audience.
- Measure based on built assumption: furniture demand profit per sqft as a function of attained sales over time.

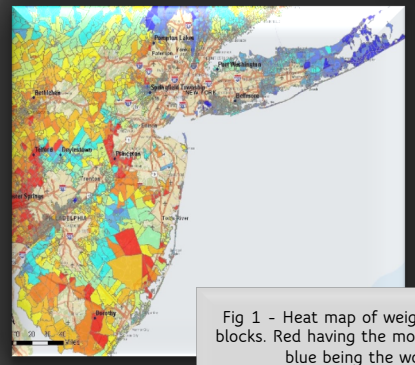


Fig 1 - Heat map of weighted census blocks. Red having the most points and blue being the worst.

Fig 2-The best areas to open a new store in each market

Data Used to Inform Decision Making

Webinar and Panel Discussion with fellow guest lecturers on Q&A related to data informed decisions.

- The Future is Data-Driven

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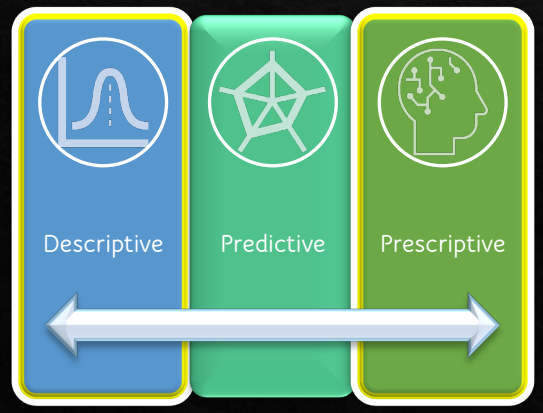

Q: Have you ever been surprised by human behaviors and mindsets, and how did you apply those insights to help businesses?

A: How learning from human behavior shapes creative strategy.

WHO: Existing and Potential Customer behaviors
WHERE: Regionally Testing via Geo Targeting
WHAT: A/B Creative Message Testing

Purchase behavior of New Movers

- Cohort analysis – Latency of Point of purchase

✓New mover propensity model targeting parameters adjusted

Response Measurement Learnings

- Stat Sig A/B test strategies reveal what works best

✓Modify creative and messaging strategy based on results

Geo Targeting as a Primary Condition

- Deeper dive into the effectiveness of performance

✓ Regulate targeting pool radius for propensity model

Propensity to change shopping habits

Measure promotion effectiveness in terms of the ROI.

Behavioral data carry the most important signals needed for modeling