Cartesian Consulting

Founded in 2009, we are a global analytics services firm specializing in three areas:

- Customer Analytics
- Marketing Analytics
- Business Analytics

We help organizations be data driven, and customer obsessed

Data Driven
Customer Obsessed

We live by results: Lift, Repeat & Retention, Margin improvement, NPS Scores

The Impact we create
Our efforts add 5-7% to the topline

What we do
We help brands Industrialize their analytics efforts, solve complex business problems, and create a culture that is data and decision sciences driven


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Over 150 people in 5 locations globally

Our North America office in San Francisco was started in June 2016. Catering to USA, Canada, Latin America.

3 Sales and Delivery offices in India – Mumbai (HQ), Bangalore and Delhi.

Sales office in Singapore – catering to the ASEAN region. Clients currently in Singapore, Malaysia, Indonesia, Thailand.
Our clients

We work with some of the largest and most prestigious domestic brands in the Indian market.
International brands include HP, Facebook, Levi’s, Dominos, Dunkin, Marks & Spencer, Tommy Hilfiger, Benetton, LG, Unilever.

We tend to work on long term engagements – some of our clients have been with us for over 6 years.
We have a 95% client renewal rate, and excellent feedback on independent platforms such as Clutch.

Client Feedback on Clutch
Firms That Deliver
Strategizing for Growth: Making analytics a significant business driver

#1 to #7
• Analytics as a practice needs to seep into the business, marinate over time

• Look for a long term solution that is embedded

#1: Don’t Buy “fixes”
Case study: Industrializing the art of driving Frequency

**The Need:**
Drive frequency in a 30 Mn customer base through highly targeted, automated campaigns

**The Solution:**
CART-CLM, an Engine running the ruleset, using model scores, optimizing offers, tracking journeys, self learning, integrating with CRM and messaging systems.

**Over 100 daily triggers**
- Not transacted for 20 days
- Upgrade pizza size
- Change of crust
- 20th transaction Milestone
- Welcome to a new city
- Non-adopter of product A
- Anniversary of first order
- Lapsed from App
- ...

**Multiple Tracks**
- Lapser Track
- Digital Track
- New customer track
- ...

**Segment of One**
- Single view
- Genome mapping
- Paths and nudges
- Contact optimization

**Offers Optimized**
- High Offer
- Medium Offer
- Low Offer

**Models/ Recommenders**
- Propensity to respond
- Next best product
- Next best offer

**The Impact**

1. **12X the response rate from CLM as against bulk Promo messaging**

2. **18% Frequency improvement amongst targeted customers**

3. **5%-7% topline contribution of Incremental sales generated by CLM**
Case study: Driving Margin improvement repeatedly across 24 months

The Need:
Improve margins by 8-10%, for a QSR brand in Indonesia

The Solution:
Pricing Analytics | Menu rationalization | Promo optimization

Pricing Analytics
Each menu item scored on 6 parameters indicating our ability to increase prices

Menu Rationalization
Menu restructuring recommended basis the new prices, estimated impact of price change calculated

Promo Optimization
Change in structure to drop toxic Promos, targeted marketing to shore up volume loss

The Impact:
22% increase in prices | 17% reduction in COGS | 4.5% drop in weekly orders
#2: Perspective & frameworks
> Warm bodies & models
Case study: Building a case for investment on the back of 26X LTV

**The Need:**
Identify guests with a potential to become MVG (Most valuable guests) early for a Luxury hotel chain in India

**The Solution:**
LTV measures | Propensity model builds | Nurturing programs

**LTV Measures**
Models to identify future value of guests. LTV model to establish the value of a MVG vs. a first-time guest.

**Propensity Models**
Regression models to establish what markers exist in the first stay that indicate future potential – Non Room revenue, Nationality, Payment Mode etc.

**Nurturing programs & Measurement**
Campaigns targeted at cross sell of Leisure stays to first time business travelers, priority list for invites etc.

**The Impact:**
Increase in MVG base over time, improvement in y-o-y retention of 3%
Case study: A Framework for Managing in-season markdowns

The Need:
Improve sell-throughs by early interventions and in-season markdowns for a global apparel brand

The Solution:
Product & Store classification | Sell through prediction & tracking | Intervention push & measurement

Product & Store Classification
Classification trees to classify of Products (Best sellers | Lost opportunities | Duds) and Stores (A | B | C)

Sell through prediction & analysis
Basis product attributes, week-on-week sell through curve predicted, tracking set up

Intervention Push
Products identified every week for interventions – Staff incentive | Shop Window | Consolidation | ISMD

The Impact:
6% increase in sell through of Intervened products as compared to Non intervened products
<table>
<thead>
<tr>
<th><strong>THE METHOD MEN</strong></th>
<th><strong>THE BIG DATA SCIENTISTS</strong></th>
<th><strong>THE BUSINESS STEWARDS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you use Random Forests, Beta Binomial?</td>
<td>Can you use Hadoop for this?</td>
<td>What’s the impact you’ve created?</td>
</tr>
<tr>
<td>Analytics = application of methods</td>
<td>Analytics = application of tech (and algorithm)</td>
<td>Analytics = bringing an analytical mindset to a business problem</td>
</tr>
</tbody>
</table>
Case study: Method men + Business stewards + Engineers come together to crack the Open Rate problem

**The Need:**
Improve open rates for the ‘000s of Emails being sent by one of Asia’s top private Banks – by only analyzing the Subject Line

**The Solution:**
1) Subject lines converted to Features
2) Feature scoring
3) Modeling to predict open rate
4) Simulator

**Subject line deconstruction**
Deconstruction of subject lines to Features, analysis of impact of Features

**Modeling**
Random forest, SVM Modeling methods used to build the predictive model

**Simulator**
Online simulator deployed for ongoing use by the Bank team

**The Impact:**
95.6% Accuracy on holdout data | Knowledge of what words and phrases impact open rates
#4: The teams need layers, and then some

<table>
<thead>
<tr>
<th>TEAM</th>
<th>ROLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Stewardship</td>
<td>ETL, Dedupe &amp; Cleanup, Integration across sources, Feeds to campaign &amp; production systems, Backup &amp; archiving</td>
</tr>
<tr>
<td>Analytics &amp; Campaign Ops</td>
<td>Business analytics, Queries and Reports, Campaign Management, Response tracking, Automation, Reporting</td>
</tr>
<tr>
<td>Modelers</td>
<td>Customer, Channel, Operations. Test &amp; exploratory analysis, development of scorecards</td>
</tr>
<tr>
<td>Big Data</td>
<td>Unstructured data, Big Data tech, Semantics &amp; Graph databases, Machine learning</td>
</tr>
<tr>
<td>Culture &amp; Eminence</td>
<td>Writing &amp; publishing, Internal communication, culture creation, industry connect</td>
</tr>
<tr>
<td>Governance &amp; Mgmt.</td>
<td>Goal setting &amp; process control, stakeholder and expectation management, sponsorship and resourcing</td>
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</tbody>
</table>
#5: Recognize the need for distinct working mindsets

<table>
<thead>
<tr>
<th>Innovate</th>
<th>Operationalize</th>
<th>Industrialize</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovative work/ first time a problem is being tackled</td>
<td>Problem solved now action taken by business – first time view of impact</td>
<td>Repeatedly done and value extracted</td>
</tr>
</tbody>
</table>

**The Innovator Mindset.**
- Most of what you do here WILL NOT WORK! It is necessary to do a lot to hit on the solution.
- The trash can will be piled high with work done but not finally used or useful. Don’t cling to stuff done.
- Very little realized value
- Very high Potential for new future value
- Sometimes disruption focused

**The Doer Mindset.**
- Leap of faith involved in putting into action what the analysis has thrown up. 40%-50% chance of not working out in reality unless there is a strong precedent.
- Work quick and smart learn from errors.
- Value in seeing one-time impact
- Focus on capturing and then selling the story
- Faith building

**The Factory Mindset.**
- It’s worked so now milk it.
- Repeatedly do it with no error or deviance.
- Keep extracting business value from it till it runs out or something new comes along.
- Very high business impact
- Risk of Boredom
- Needs disruption
Case study: Analytics COE for a diversified conglomerate

The Need:
Put in place a 3-year roadmap for analytics and decision sciences adoption for a large conglomerate

The Solution:
Current State and Readiness | COE setup plan | 3 year roadmap

Current State and Readiness
Brands within the conglomerate evaluated on current evolution and readiness

COE structure & ecosystem
Team, tools, governance, milestones and targets recommended

3 year plan
3 year evolution recommended with budgets

The Impact:
Establishment of the 3 year roadmap, buy-in of all businesses + senior leadership

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#6: Push peanuts | Chase the “Aha!”

Data validates more often than inspires

Have a healthy regard for the mundane stuff that allows peanuts to be pushed

Have a keen eye for the stuff that changes destinies

The teams need to do inspirational work
Case study: “Aha” moments in the midst of peanut-pushing work

The Need:
Improve Persistency amongst customers of one of Asia’s largest private Insurance providers

The Solution:
1) Modeling to establish current and future value
2) Segmentation and profiling for precision marketing
3) Text analysis of touchpoint data to establish Premium at risk
4) Testing of outreach options

Models
Persistency models built & improved by addition of new variables, separate models for Future Potential

Segments
6 distinct customer types identified to communicate with in a relevant manner

Text Mining
Mining of touchpoint data at Surrender + extrapolation through look-alikes to establish premium at risk in the full base

Testing
Testing of paths-to-Persistency, different combinations of communication prior to due date

The Impact:
3% lift in Persistency | Paths established that drive up to 12% higher Persistency | 45% Premium at risk identified
#7: Attribution is your friend... and Bias your enemy
Case study: Optimize marketing spends using MMM and better MTA rules

The Need:
Establish the impact of spends on Facebook as a lead-generation channel. Current last-touch attribution seen to be inadequate.

The Solution:
1) Mix Modeling to establish the contribution of different media to the leads
2) Markov chains to create better MTA rules

Mix Modeling
Advanced Mix models built to establish the contribution by media and marketing spend

Contribution, ROI and Optimization
Channel-wise details of contribution and ROI established, Goal-seeks created for optimization

Conversion Paths and Attribution rules
Markov chains used to improve attribution rules, using conversion path data

The Impact:
Established high ROI of Facebook as an influencer in the Lead-generation process, advanced attribution rules created (not heuristic based)
In summary

1. Don’t buy “Fixes”
2. Invest in Perspective and frameworks
3. Careful consideration when it comes to the DNA of the team you’re building
4. Teams need layers
5. ... and distinct mindsets
6. Respect for peanut-pushing work, and eye for the “aha”
7. Attribution is your friend, invest in it early
Thank You

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