



# Data Science for Entrepreneurs: Essential Elements for Innovation and Growth

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# WHAT DO THESE COMPANIES MY BACKGROUND IN DATA DRIVEN MANAGEMENT

**ORACLE**

TQM, Data Analytics and growth to a billion dollar product line

**VAHealth**

Physician Decision Support System to Manage Chronic Pain and Narcotic Medication

 **Education.com**

Growing a Data-Driven Website from 40,000 to 7M Visitors Per Month

 **Pearson**

Prescriptive Learning AI Algorithms, 40% increase in math scores

**PALO ALTO UNIVERSITY**

Data-Driven Enrollment Management \$400K to \$5M in three years

 **HORIZON**  
CONSUMER SCIENCE

Data Science & AI Development Consulting

# AGENDA

- ✚ Context: The Age of Data
- ✚ Why do start-ups need a data science strategy?
  - Innovation
  - Growth
  - Corporate Culture & The Data Marketplace
- ✚ Is there a correct way to conduct data science in business?
- ✚ Does the “Data Scientist” really exist?
- ✚ What is your role as a leader in Turning Data Into Profit?

# IS DATA SCIENCE THE NEXT BEST PRACTICE OR YOUR KEY TO SURVIVAL?



“It’s clear that **data** is becoming a key business asset, central to the success of every company. Companies that don’t evolve and embrace the data revolution will be left behind.” – Bernard Marr, 2017

# WHAT DO THESE COMPANIES HAVE IN COMMON?

DIAGEO



realtor.com®

Sotheby's




THE BELGIAN CHOCOLATE HOUSE



Data Science & AI Development Consulting

# DATA SCIENCE IN BUSINESS: WHY NOW?

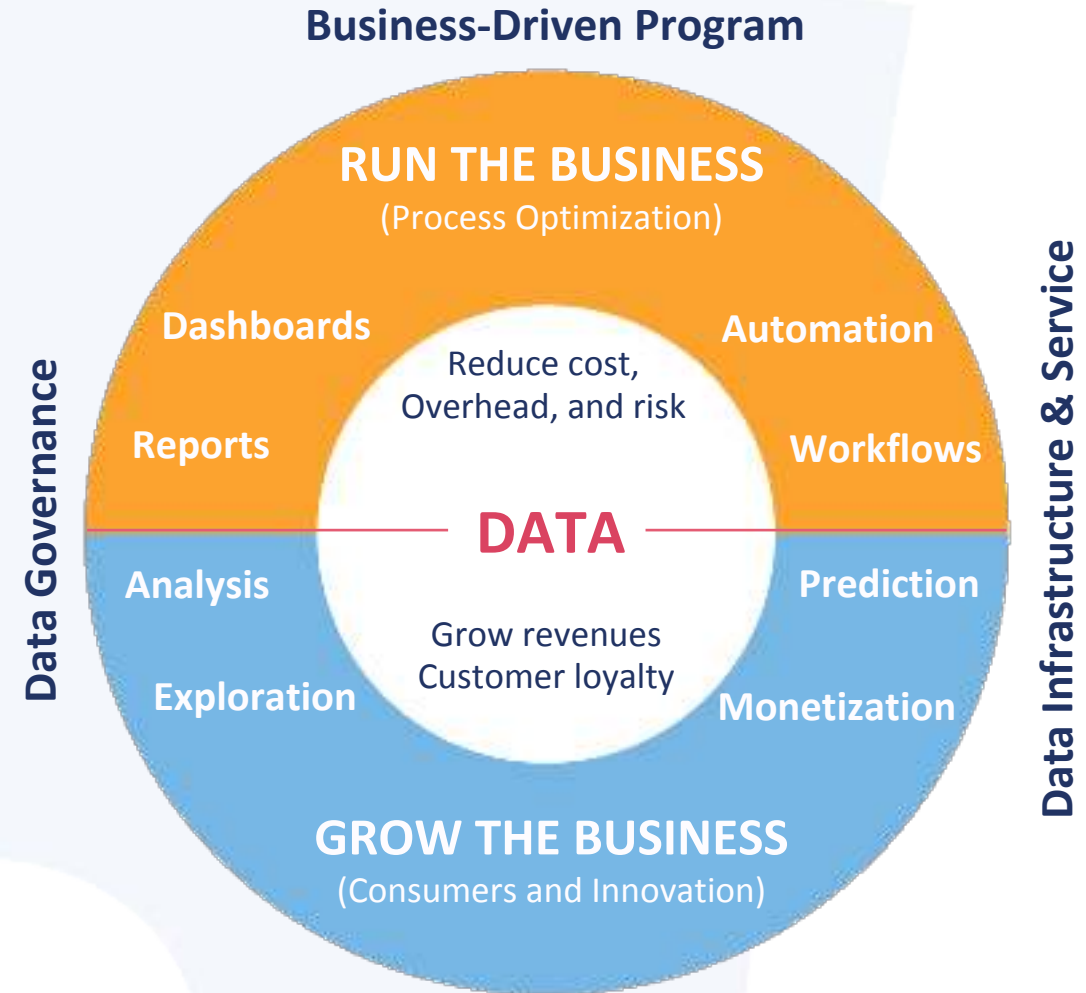
 We've officially transitioned from **The Information Age** to **The Data Age**

- Data quantity is growing at unprecedented rates
- Data quality has drastically improved
- Data is easier and less expensive to collect and store
- Data findings can immediately be used to generate revenue

# SIMPLE CATEGORIES OF BUSINESS DATA

## 📌 Make better business decisions

- **Operational Data** – Reduce Expenses
- **Consumer Data** – Increase Revenue
- **Together: Turn Data into Profit**



# SIMPLE DEFINITIONS: DATA SCIENCE UMBRELLA

## Data

Transactional and website data, dashboard data, extracted data, collected data



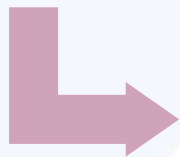
## Data Analytics, CX Mapping

Counting, trends, insights, etc., website traffic up/down, but don't know why, **better decisions**



## Data Science Applied

Answers to maximizing profit, **the right decision**



## Data Science Extrapolations

Actionable Data Findings = AI, **using decisions**, Machine learning





# TAXONOMY OF BUSINESS DECISIONS

Almost all the really important revenue questions fall into one of these categories:



# DATA SCIENCE: **The key to surviving and thriving!**

## 📌 **Leads to better and more intelligent decisions**

- Better business decisions – market and consumer intelligence
  - **Grow revenues**
  - Consumer loyalty
  - Better products and services
- Better business operations – internal company intelligence
  - **Reduce expenses**, overhead, and risk
  - Run the business
  - Process optimization

## 📌 **Leads to putting the data to work**

- AI, AI Algorithms built into a company's digital platforms (Gartner, 2018)

## 📌 **Leads to customer centricity and outperforming competition who are not customer data centric**

## 📌 **Leads to higher company valuation**

# Why do start-ups need a data science strategy?



- Innovation
- Revenue Growth
- Corporate Culture & The Data Marketplace

# DATA SCIENCE & INNOVATION



# DATA SCIENCE & INNOVATION: *Your Leadership*

## 📌 Innovation

- The act or process of introducing new ideas, devices or methods (Webster).

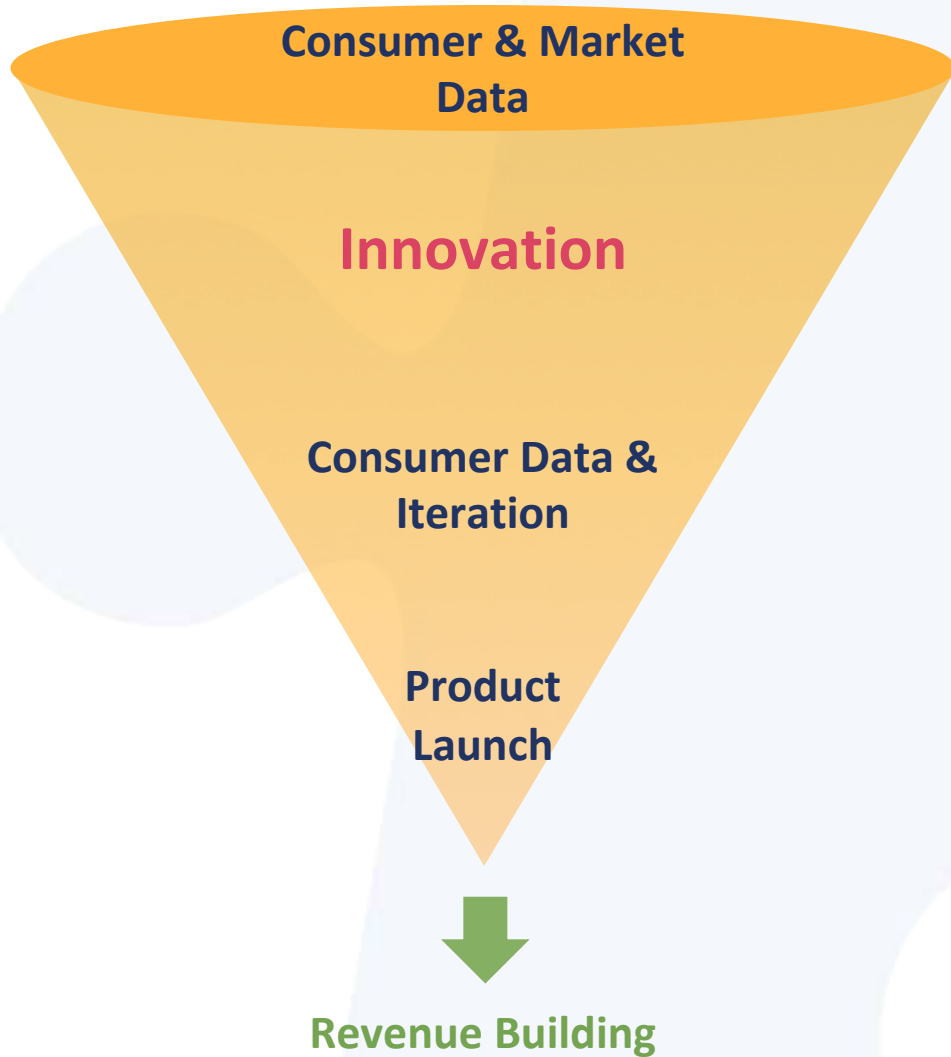
## 📌 Data that spurs innovation

- Data on problems, challenges, opportunities
- Data on new trends, what's missing, what's needed
- Data on human behavior, your prospective consumers

## 📌 Leadership: How do you innovate?

- Explicit use of data
  - Data → Innovation → Product Launch
- Implicit use of data
  - Innovation → Product → Data

# CONSUMER DATA & INNOVATION: **Explicit or Implicit**



**Innovation**  
Based on Passion, Hunch & Inner Knowing

Iteration

Product Launch

Consumer Data & Iteration

↓  
Revenue Building

# DATA SCIENCE & GROWTH

Almost all the really important revenue questions fall into one of these categories:



# DATA SCIENCE & GROWTH

## Case Studies

## What Really Matters for Start-ups & Growth

Identifying Opportunities



In today's world of readily available data, the relationship between products and emerging market trends can be predicted ahead of time and AI engines can be seeded before launch.

Implementing Strategy



Your brand's position, growing the mental availability of the brand  
TARGET -- consumer profile, lifestyle, motivation, experience  
BENEFITS – benefits  
Advanced Data Science can test 1,000's of positions

Product Development



Your brand's features, packaging, and price

Communicating Effectively

Home 123 Lending

Target versus mass marketing, differentiating the messaging versus the media channel

Dissecting Performance



Increased market share comes from knowing why and dissecting the contributing factors to revenue





# DATA SCIENCE, CORPORATE CULTURE & THE DATA MARKETPLACE

## 🗄️ Data Monetization

- How is the data going to be monetized, who are you selling data to

## 🗄️ Data analytic products/dashboards, prevention analytics

- Dashboards: Descriptive, Diagnostic, Predictive, Prescriptive Analytics

## 🗄️ Data AI Development Needs

- Data extrapolations, data intelligence, human logic, “AI”

## 🗄️ Data legal and privacy issues?

- California Consumer Privacy Act of 2018 (CCPA); General Data Protection Regulation (GDPR)

## 🗄️ Data Architecture & Technology

- Data sources, data management & hygiene, data architectures servers, software

# DATA SCIENCE, CORPORATE CULTURE & THE DATA MARKETPLACE

## 🧩 Benefits of building data into the “DNA” of your company

- More likely to get funded
- More likely to make the right decisions
- More likely to innovate and grow
- More likely to become customer centric
- More likely to get a higher valuation

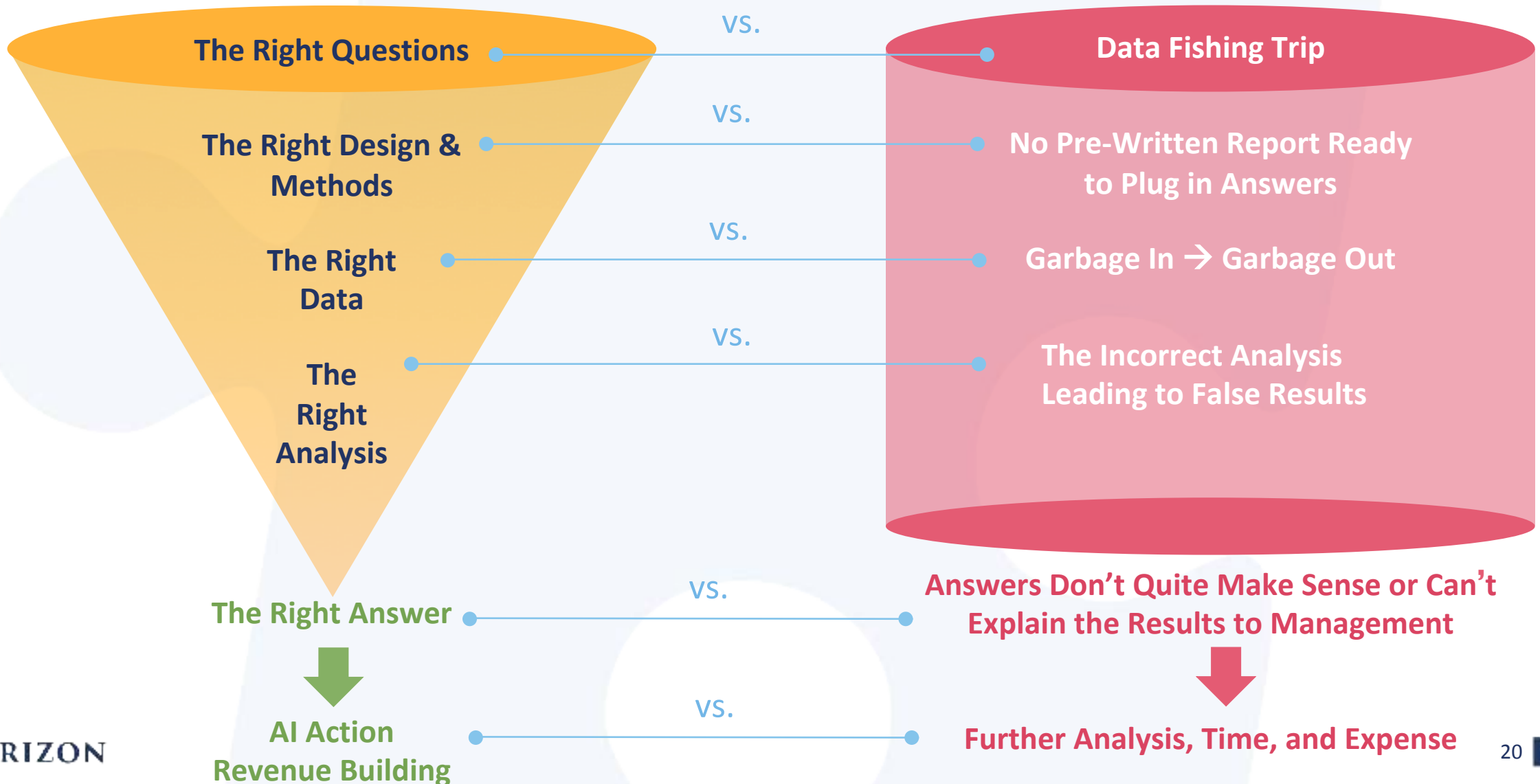
# Is there a correct way to conduct data science in business?



“Creating new data is as important as using existing data.”  
– Venture Beat, 2018

# THE RIGHT DATA SCIENCE PROCESS

Active, Disciplined, Efficient, Cost Effective

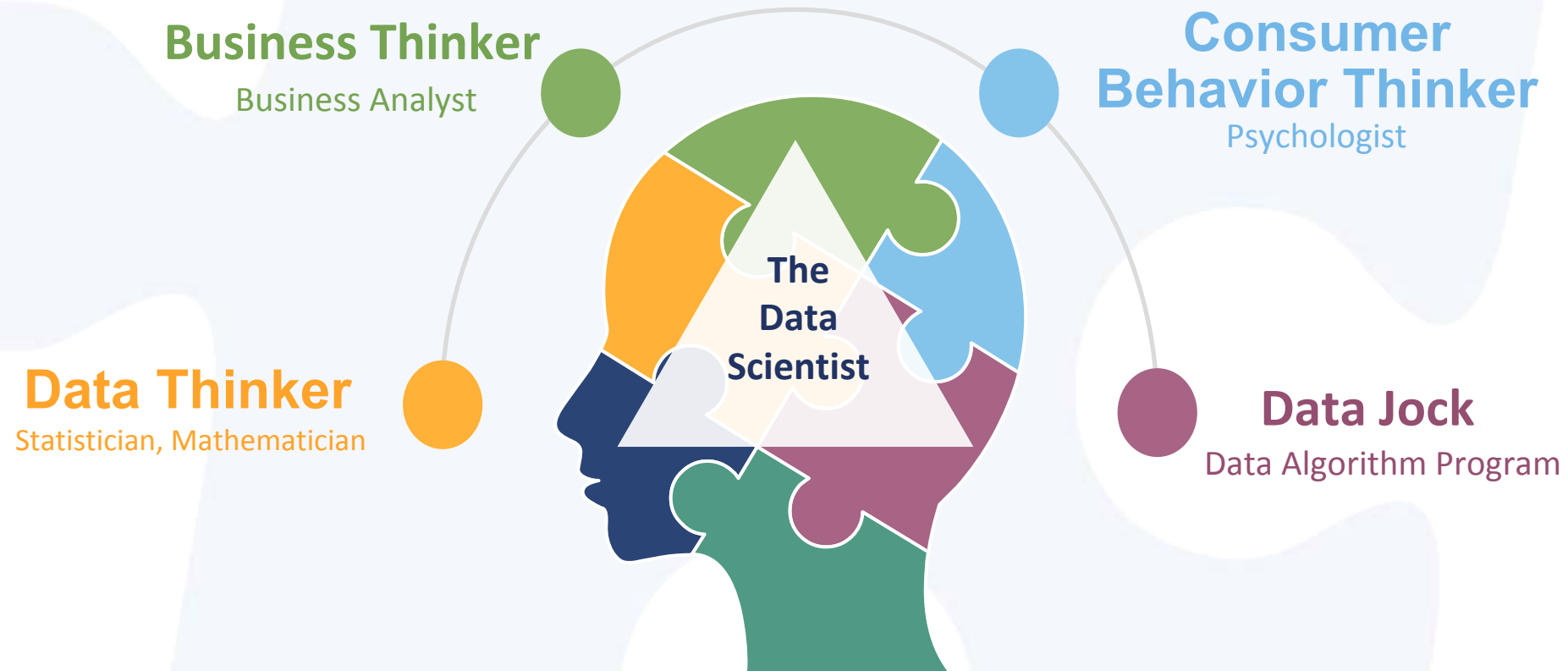


# Does the “Data Scientist” really exist?



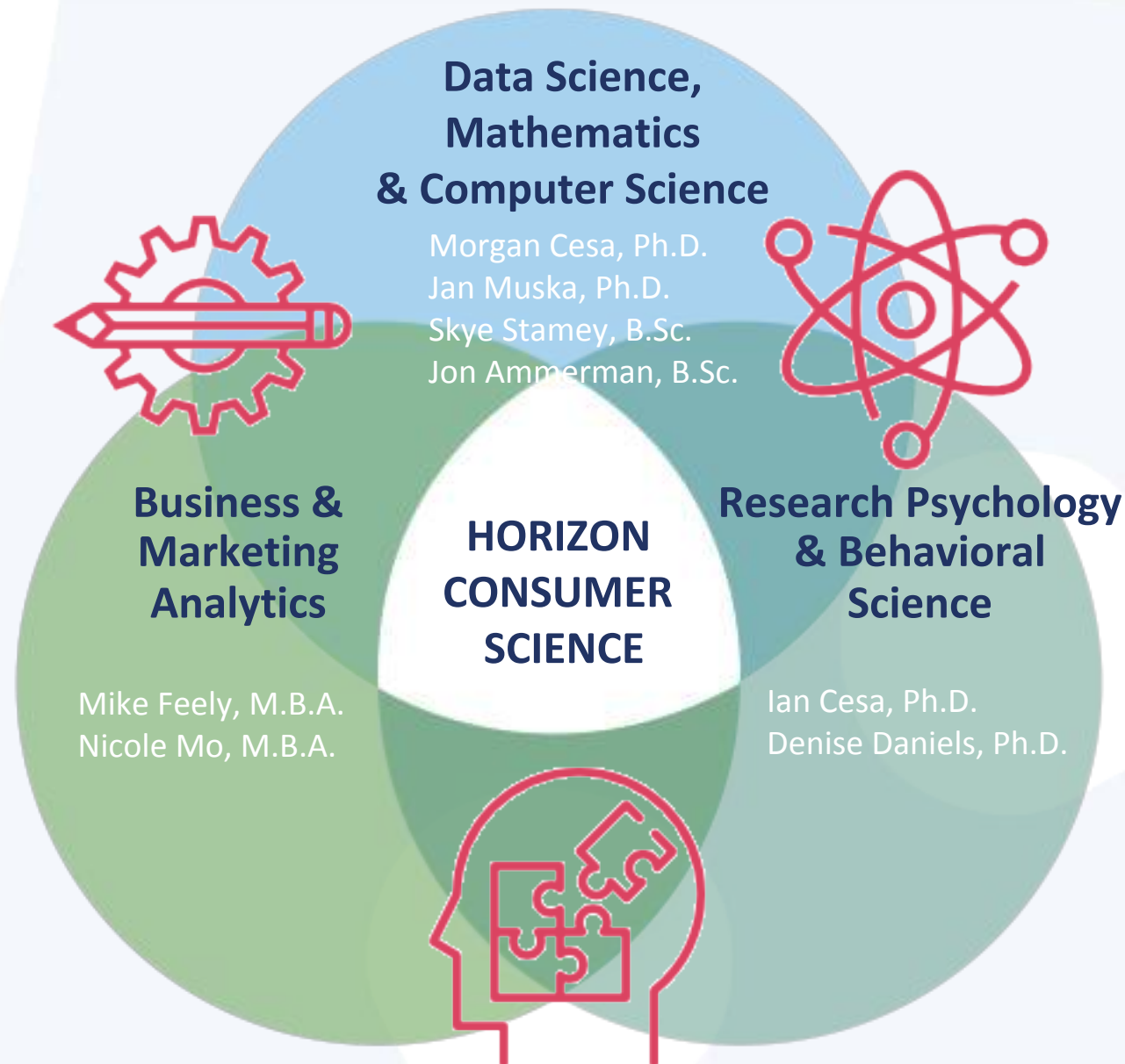
“Nationally, we have a shortage of 151,717 people with data science skills, with particularly acute shortages in [New York](#) (34,032 people), the [SF Bay Area](#) (31,798 people), and [Los Angeles](#) (12,251 people).” – LinkedIn Labor Report, 2018

# DATA SCIENTIST = THE DATA SCIENCE TEAM



# HORIZON CONSUMER SCIENCE:

Data Science, Modeling, Technology & Traditional Market Research to Solve Business Problems Scientifically





What is your role as a  
leader in Turning Data Into  
Profit?



# Leading in the Data Revolution

## 🗑️ The Data Disruption is Here – What Really Matters

- Data noise
- More data does not mean more questions

## 🗑️ Can Your Data Science Team Explain How They Got Their Results

- Answer noise
- Answers are prone to the pitfalls of an incorrect process

## 🗑️ Keeping Score Strategically – Analytics Will Only Take You So Far

- What keep score of, what is important
- Analytics will only take you so far, data science leads to profit

# A MODEL FOR TURNING DATA INTO PROFITS: **YOUR ROLE**

## 🔧 I. THE BRIEF: Know Your Questions and Tentative Answers

- Focus on the questions you want to answer
- Come up with tentative answers based on what you know and what you think is happening

## 🔧 II. THE EXPERTISE: Get the Right Team and Hold Them Accountable



## 🔧 III. THE ASSET: Treat the Findings as an Asset

- Put your data findings to work or don't do the project in the first place
- Build institutional memory by building applied A.I. into your digital platform

# Discussion Questions

🧩 What type of data leader are you and why?

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🧩 How will you use data to rapidly grow revenue?

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🧩 What type of corporate culture will you develop in The Data Marketplace?

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