

4th Seminar on Data Science and Analytics

Gurugram

2nd November 2019

Data Science in Retail Analytics

Shailesh Dhuri

Founder



Agenda

- ➔ Introduction to the changing dynamics in retail sector
- ➔ Retail sector is opening new avenues for actuaries
- ➔ How data science is transforming existing business models
- ➔ Case studies & examples
- ➔ Scope for actuaries in the retail analytics

About Me



Shailesh Dhuri

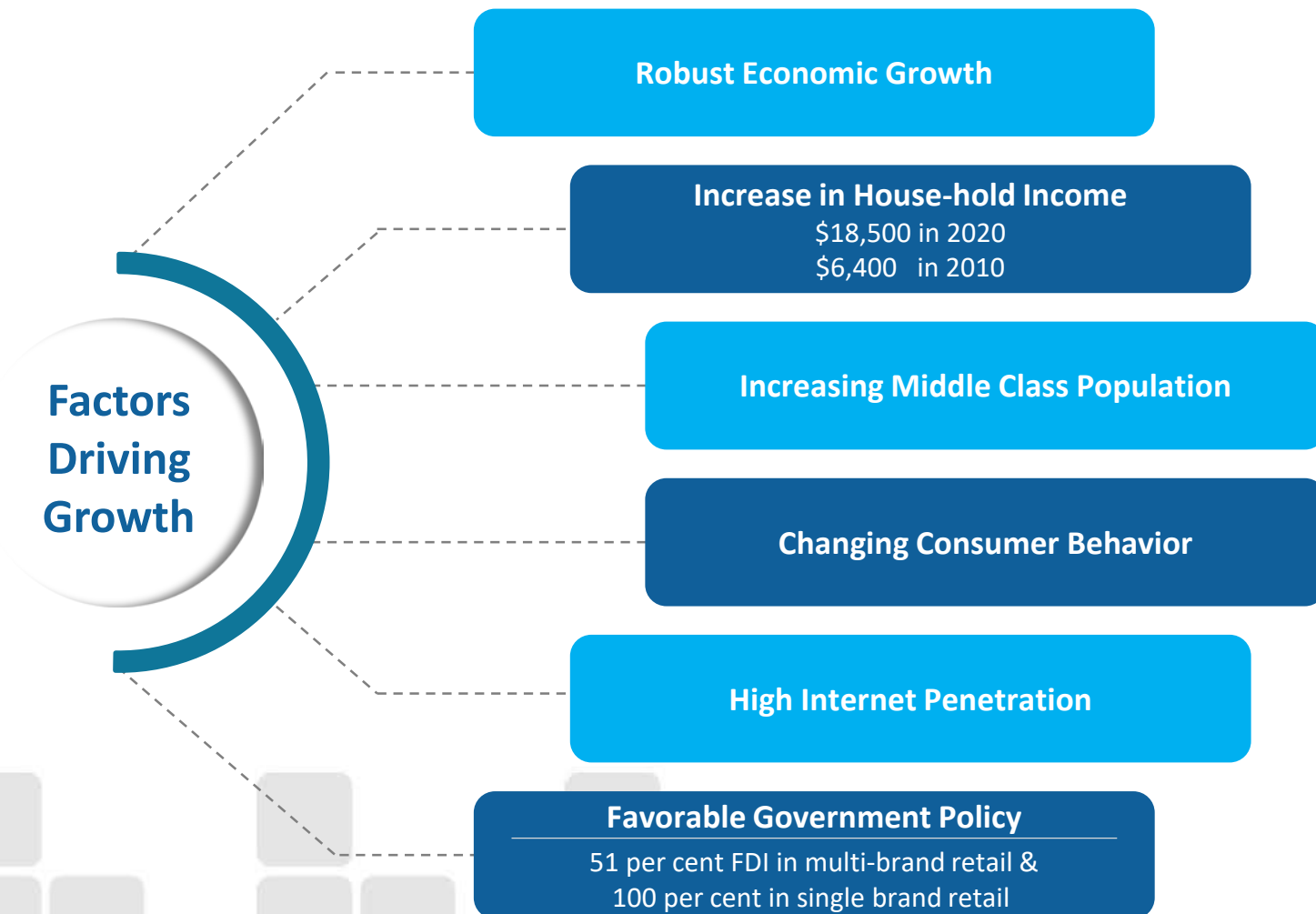
Founder: Decimal Point Analytics

- Founded Decimal Point Analytics to transform investment and financial businesses
- Passionate about integrated technology transforming businesses
- More than 25 years of experience in Entrepreneurship and Fund Management
- Associated with companies such as UTI, Credit Agricole Indosuez, Ceat Financial Services
- Started India's first money market mutual fund
- Part of a team to start India's first Private sector commercial bank
- Instrumental in starting India's first private sector primary dealership in India in 1994
- Part of a team to install first chip and pin ATM in the entire world
- MBA (IIM), PRM, FRM, CFA (India), CWA, B.com. Mumbai (India)



Retail Sector Opens New Avenues for Actuaries

Retail Sector is Growing at a Rapid Pace



New Models are Emerging in the Retail Space

Sharing Economy

P2P-based online marketplaces. Ebay

- MYRECYCLE allows customers to swap rather than buy
- ZOOM Cars gives customers the option of renting or borrowing

Competition with collaboration

- Future Group and Flipkart, Zomato & Restaurant

Same-day delivery

- BlueDart, Delhivery

Product customization

- Fabindia, Vistaprint

Omnichannel experiences

- Raymond, STAR BUCKS

Retail Eco System

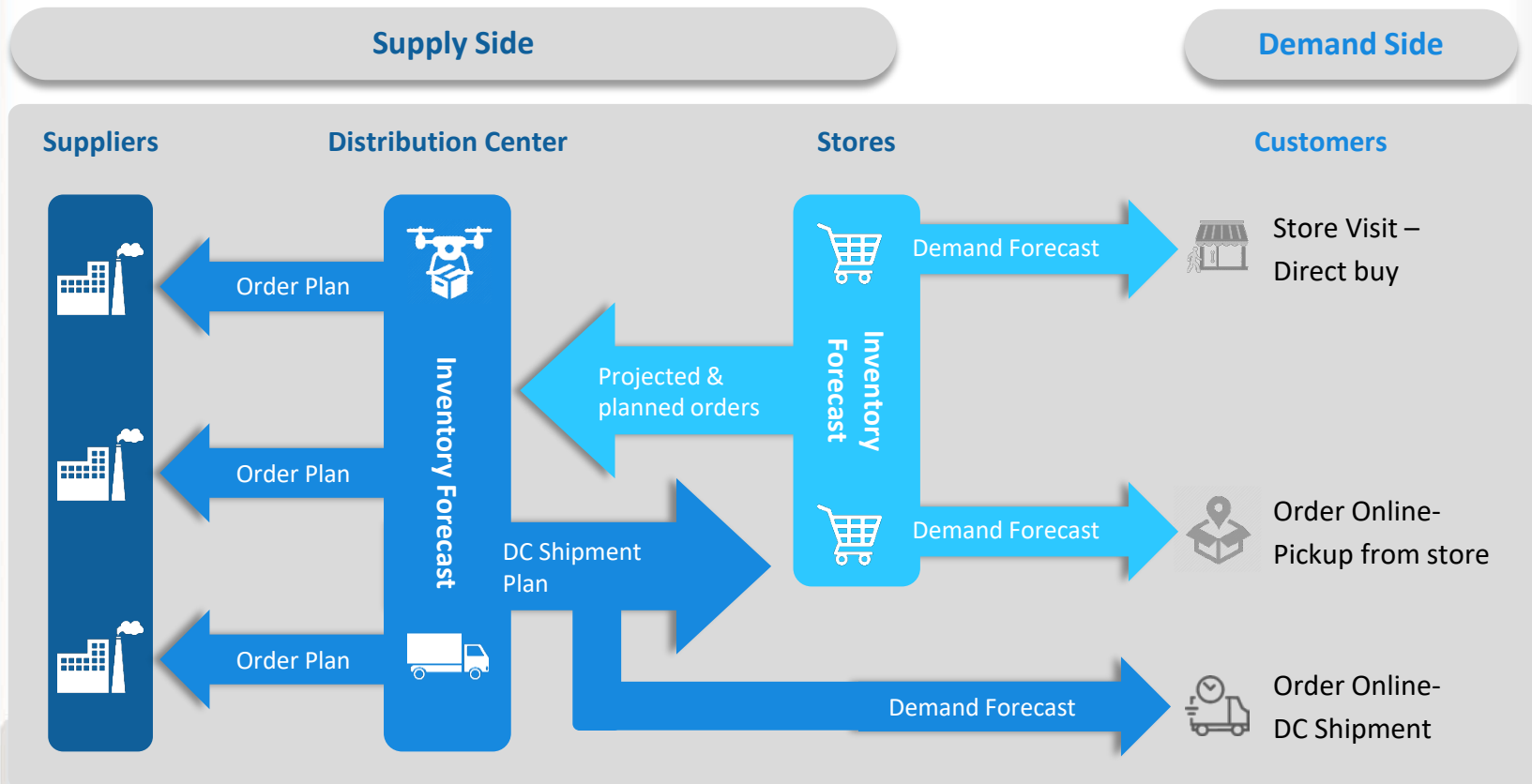
- Interlocking and interdependent suite of products and services



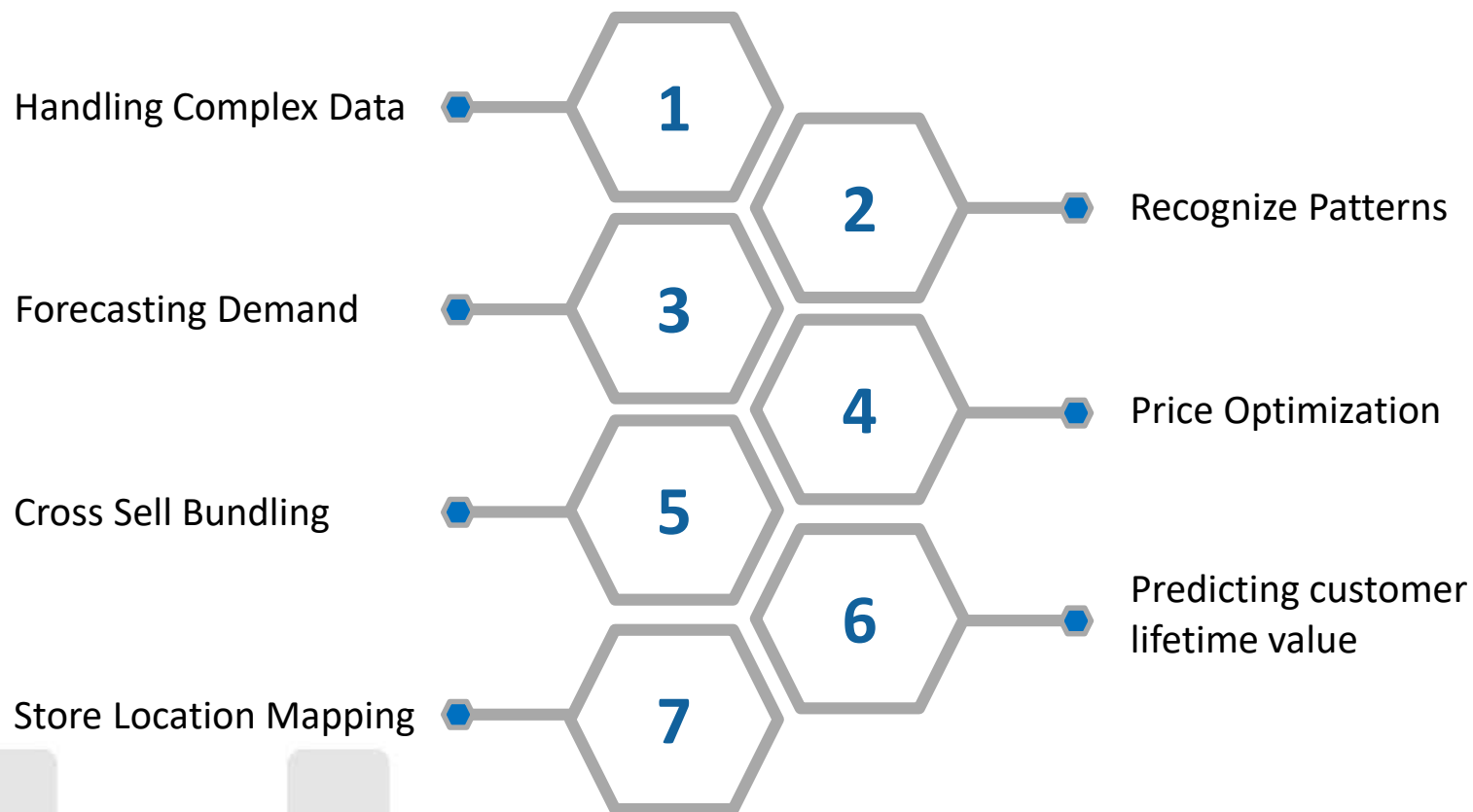
Dimension of Data Has Multiplied Dramatically In Last Few Years



Data Science Can be Used Across the Retail Value Chain



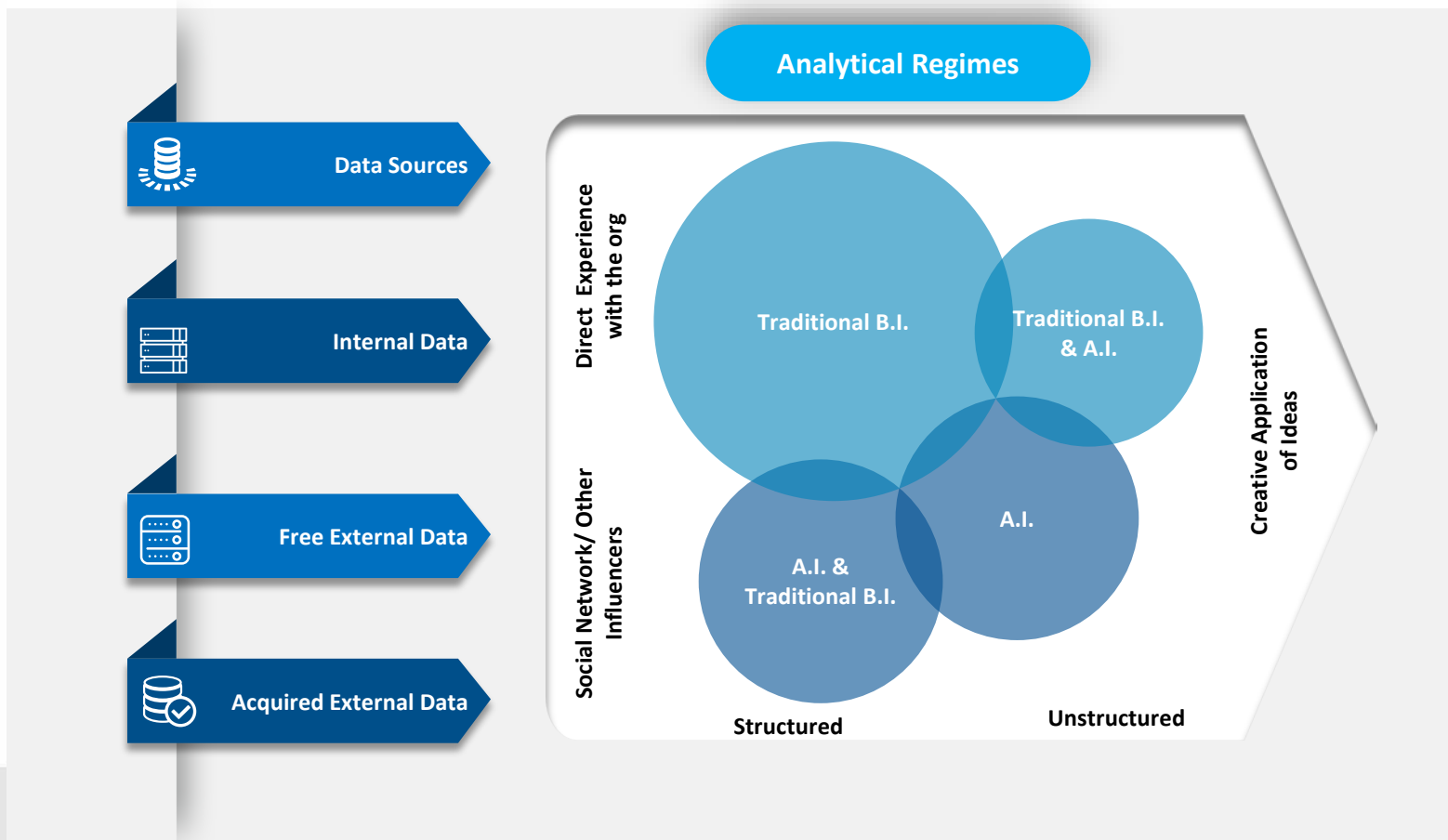
Actuaries Can Leverage Their Expertise In



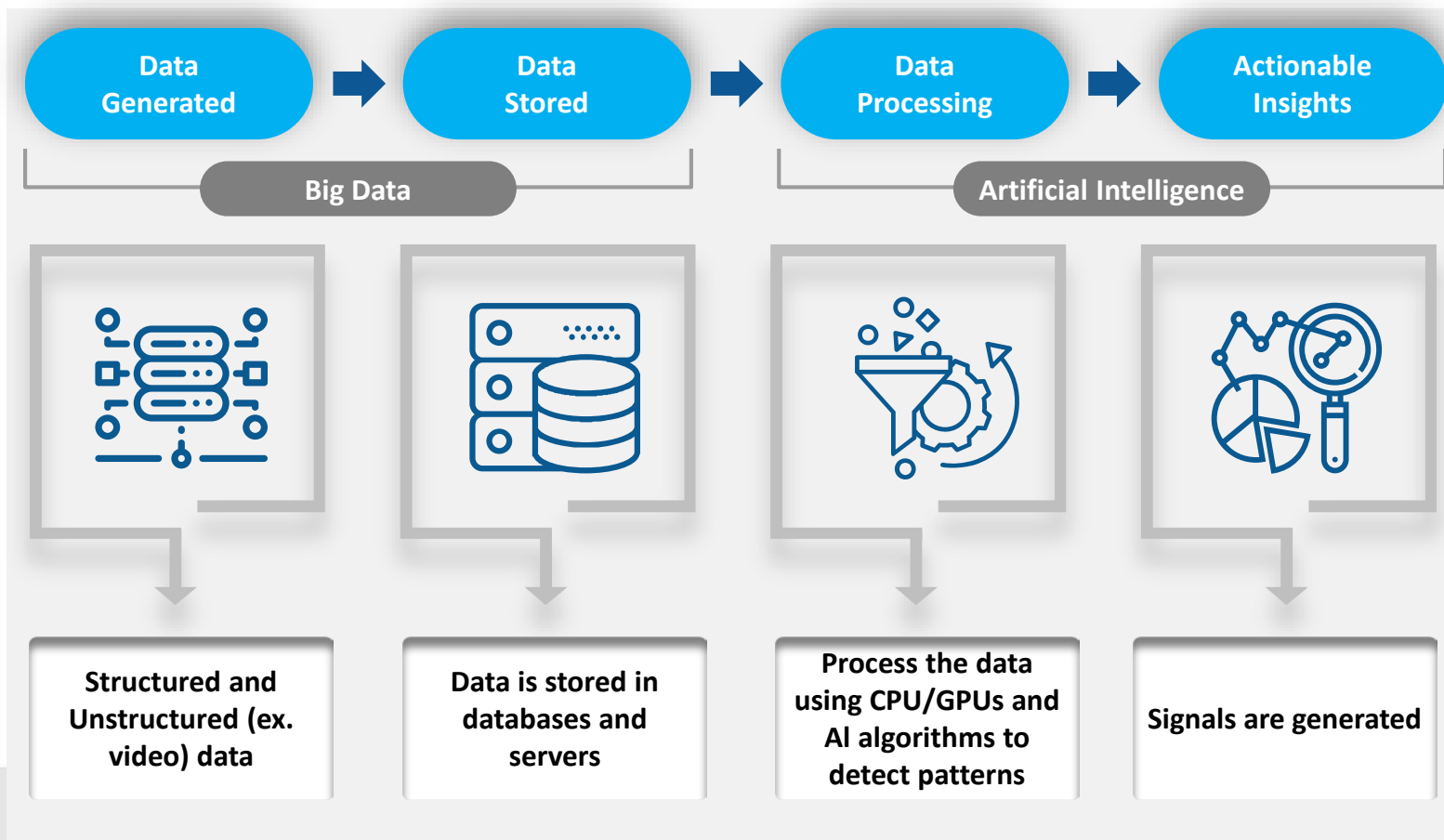


Driving Success in Retail Industry with Analytics

Creatively Using Internal & External Data...



Structure Can Be Generated from Unstructured Data



to Bring New Product Innovation in Businesses



And Create Unique Value Proposition in Retail Value Chain

Supply Chain

- Supplier Performance
- Demand Forecast
- Inventory Planning & Replenishment
- Warehouse Planning
- Route Optimization

Merchandising

- Assortment Planning
- Product Placement
- Cross selling Opportunity
- Current Trend Analysis
- Identify ROI opportunity

Store

- Real Estate planning
- Demand Forecast
- Store performance
- Shelf Storage Optimization
- Workforce Optimization

Marketing

- Customer segmentation
- Effective Targeting
- Better Product Mix
- Promotion Effectiveness
- Cross channel Synergies

Customer

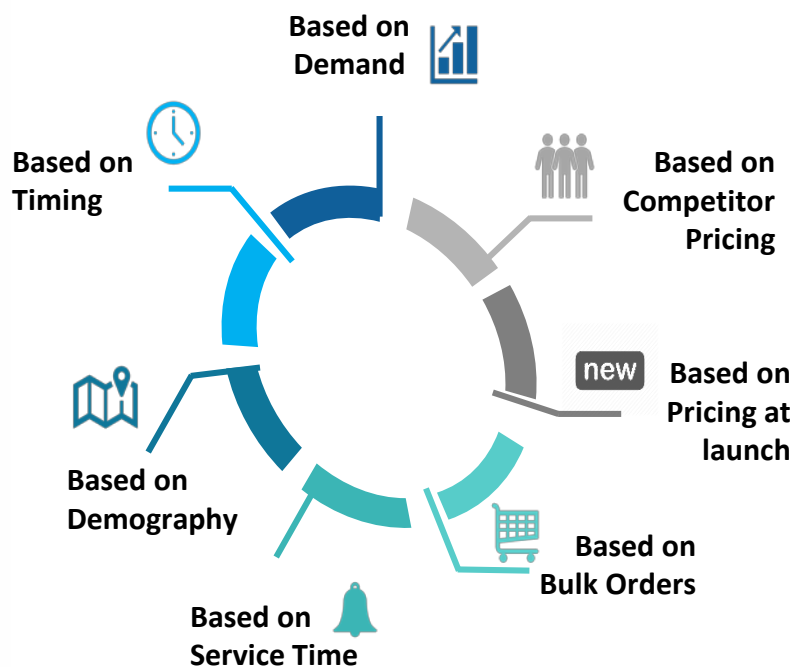
- Customer Personalization
- Customer Life-Time Value
- Dynamic Pricing & Optimization
- Retention analysis
- Customer Engagement and Loyalty



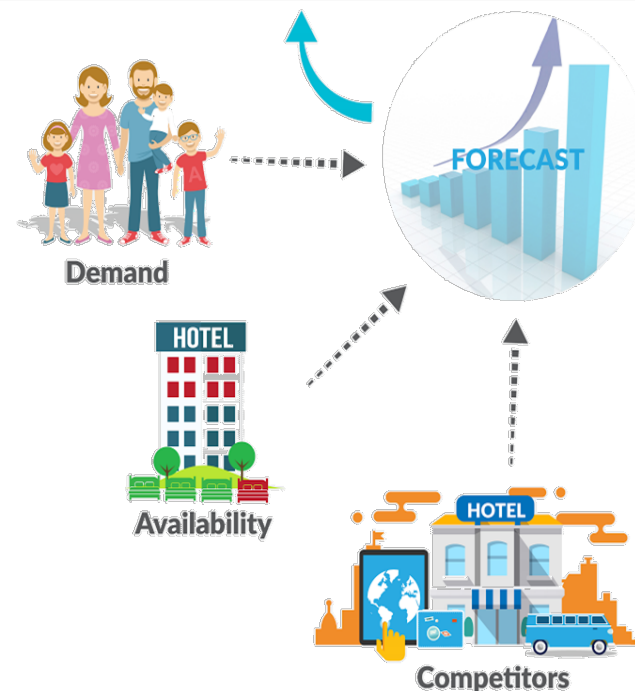
Data Science is Re-inventing Retail Business

Dynamic Pricing- Arriving at the Optimal Price Level

When To Implement Dynamic Pricing



Dynamic Pricing



Data Analytics for Supporting the Retail Banking Functions



Client Propensity
Matching



Branch/ATM Network
Optimization



Products Cross-
Selling



Customer
Acquisition



Product & Portfolio
Optimization



Risk Management




Workforce
Optimization

Recommendation

RECOMMENDED JUST FOR YOU
Shop the beauty fixes we've selected for you.

[EDIT YOUR PROFILE](#)


FOR YOUR GREEN EYES ONLY



STILA
Magnificent Metals Foil Finish Eye Shadow
\$32.00

Highlight green eyes with this versatile foil-finish shadow that builds from a sheer shimmer to a metallic opaque.


YOUR LIGHT COMPLEXION PERFECTOR



CLINIQUE
Even Better Makeup SPF 15
\$27.00

This mineral-based liquid foundation brightens and evens light skintones.

YOUR OILY SKIN SOLUTION



CLINIQUE
Dramatically Different Moisturizing Gel
\$26.00

Oily skin types will love this lightweight gel moisturizer that hydrates skin without clogging pores.

23:28 82%

Work (22nd Floor, On...)

Recommended Salads Starters Main Course

Personalised recommendations for you to choose from.

STARTERS

- Honey Chilli Potato ₹180.00 - 1 +

MAIN COURSE

- Dal Makhni ₹185.00 - 1 +
- Paneer Kadhai ₹190.00 ADD
- Butter Chicken [4 Pieces] ₹280.00 - 1 +

BREADS AND RAITA

- Tandoori Roti ₹16.00 - 4 +

[Page 1 of 'Recommended' tab](#)

23:29 82%

Work (22nd Floor, On...)

Recommended Salads Starters Main Course

BREADS AND RAITA

- Tandoori Roti ₹16.00 - 4 +
- Butter Roti ₹19.00 ADD
- Butter Naan ₹45.00 ADD

PASTAS, NOODLES, RICE AND MORE

- Veg Biryani ₹180.00 - 1 +
- Non Veg Biryani ₹210.00 onwards ADD

[Page 2 of 'Recommended' tab](#)

An entire meal for two (yes, we eat a lot) created using just the 'Recommended' tab.
Total time to checkout: 21 seconds

Recommended for You Based On Kindle Paperwhite, 6" High Resolution Display W...



MoKo Case for Kindle Paperwhite, Premium Thinnest and Lightest Leather Cover with...

★★★★☆ 898

\$9.99



Swees Ultra Slim Leather Case Cover for Amazon All-New Kindle Paperwhite (Both 2012...

★★★★☆ 273

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Fintie SmartShell Case for Kindle Paperwhite - The Thinnest and Lightest Leather Cover for...

★★★★☆ 7,015

\$14.99



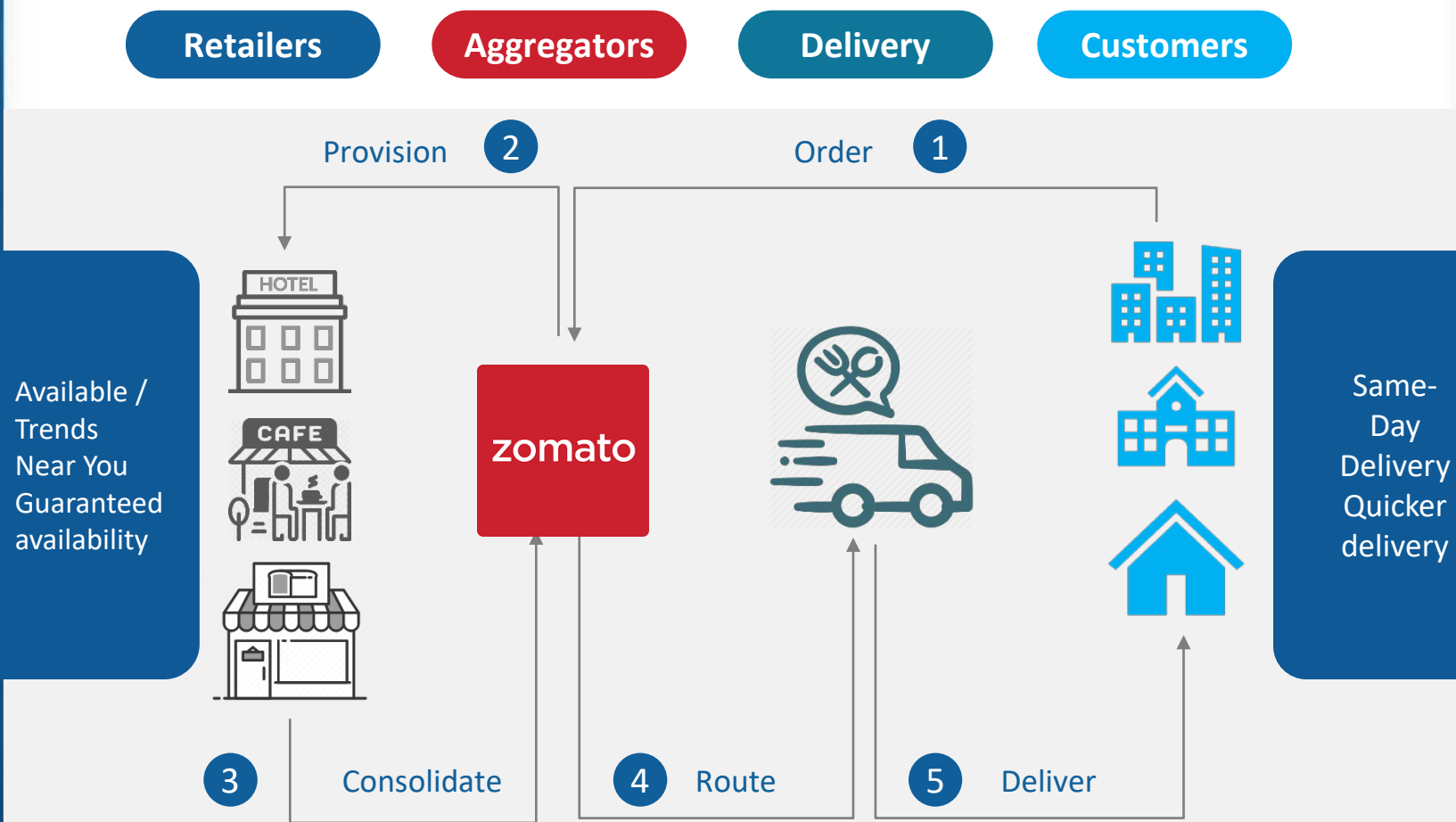
Kindle Paperwhite, 6" High Resolution Display (212 ppi) with Built-in Light, Free 3G...

★★★★☆ 45,265

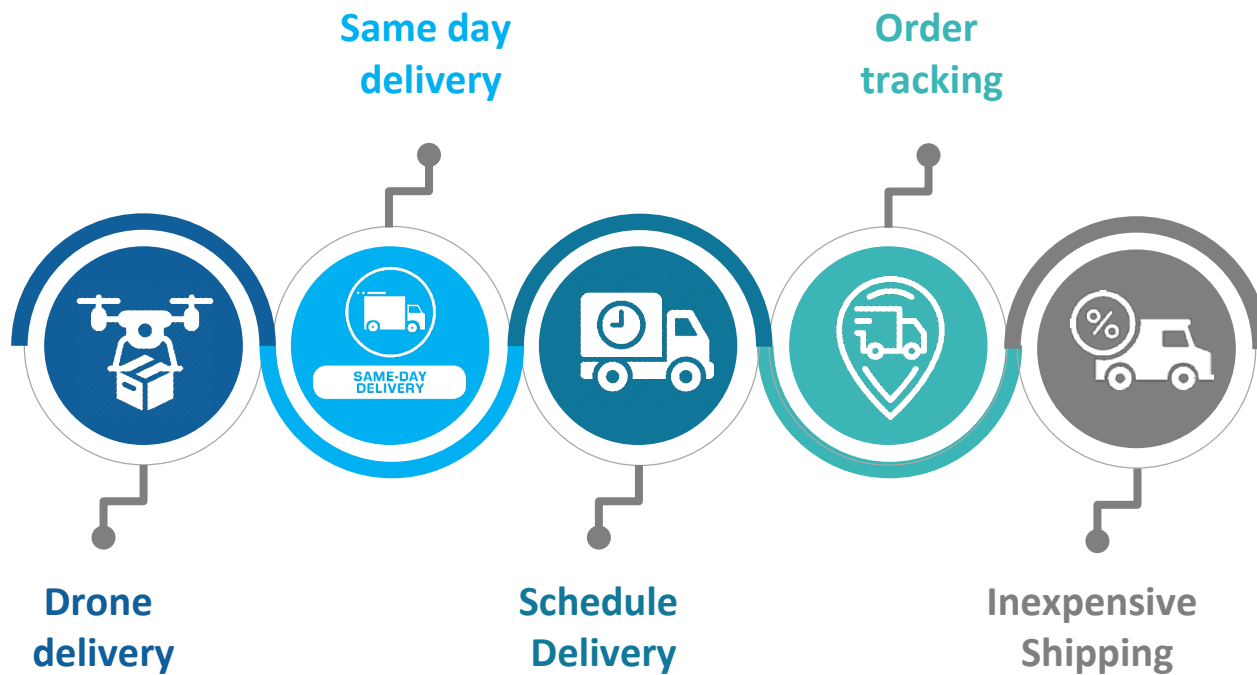
\$159.99

Hyper-localization

Hyper localization- the On-Demand Delivery Model



Data Science is Making Trends in the Way Goods are Delivered



Innovative Model using Analytics

Transportation

 Uber

 Lyft



Logistics

 Samsara

 Rivigo



Analytics has
Transformed the
Traditional
Businesses

Hospitality

 Airbnb

 OYO



Freight

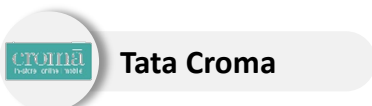
 Flexport

 Twill



Retail Analytics has Transformed the Traditional Businesses

Electronic



Hypermarkets

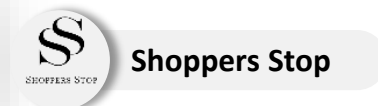


Retail Analytics
has Transformed
the Traditional
Businesses

Lifestyle



Apparel

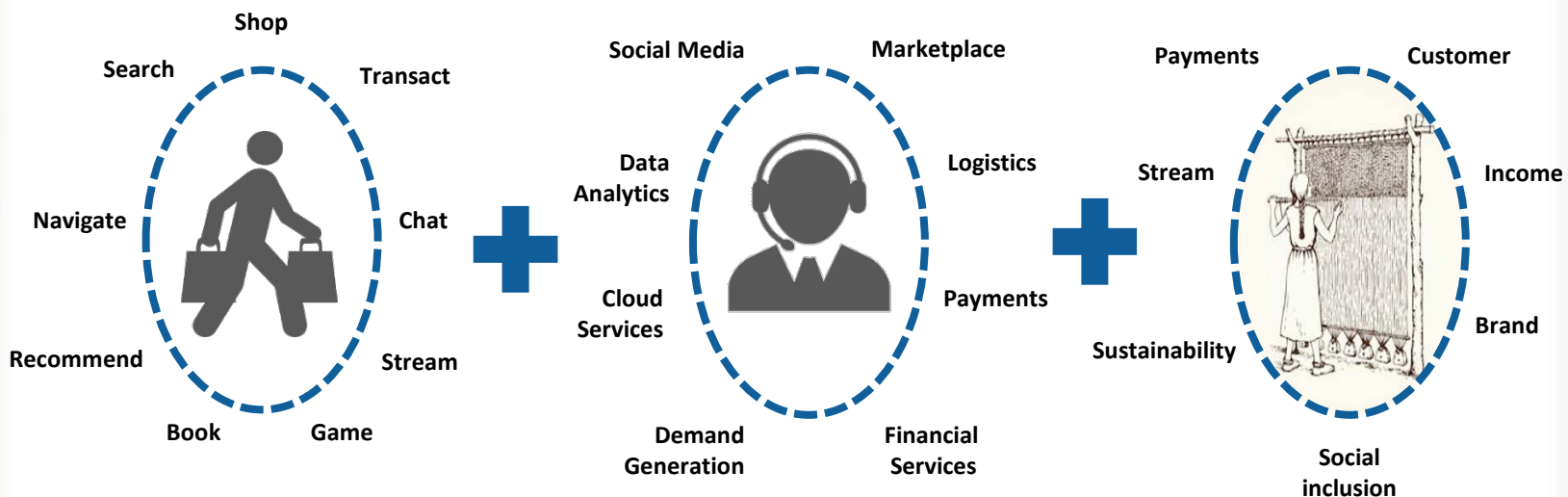


Ecosystems Benefit Shoppers, Retail Partners, Local Manufacturers/Craftsman

One-stop Shop for Shoppers

Solutions for Retail Partners

Income Source for Local Craftsman



ETSY- the Online Store for Handmade & Vintage Items



China is Re-inventing Retail Analytics



Alibaba-owned Freshippo



Fresh food (vegetables/ fish & meat) delivered in 30 minutes



Payment through Facial recognition

Species store

first to offer delivery via drone



JD.com's 7Fresh



Unmanned Stores & Smart shopping carts to guide shoppers



Predict what consumers want

Sunning store

An intelligent vending machine carrying goods to sample & buy



Kaola



Cross-border market-place

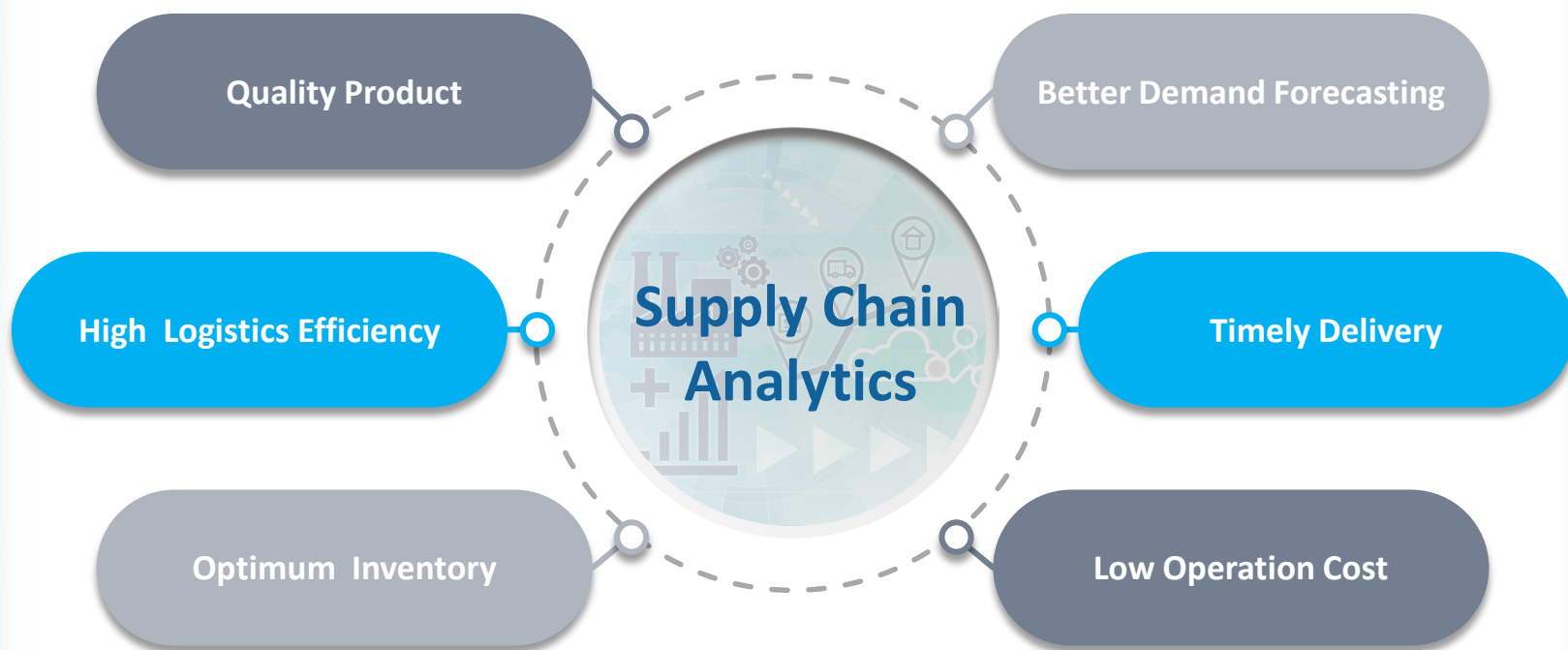


Scope for Actuaries in the Retail Analytics

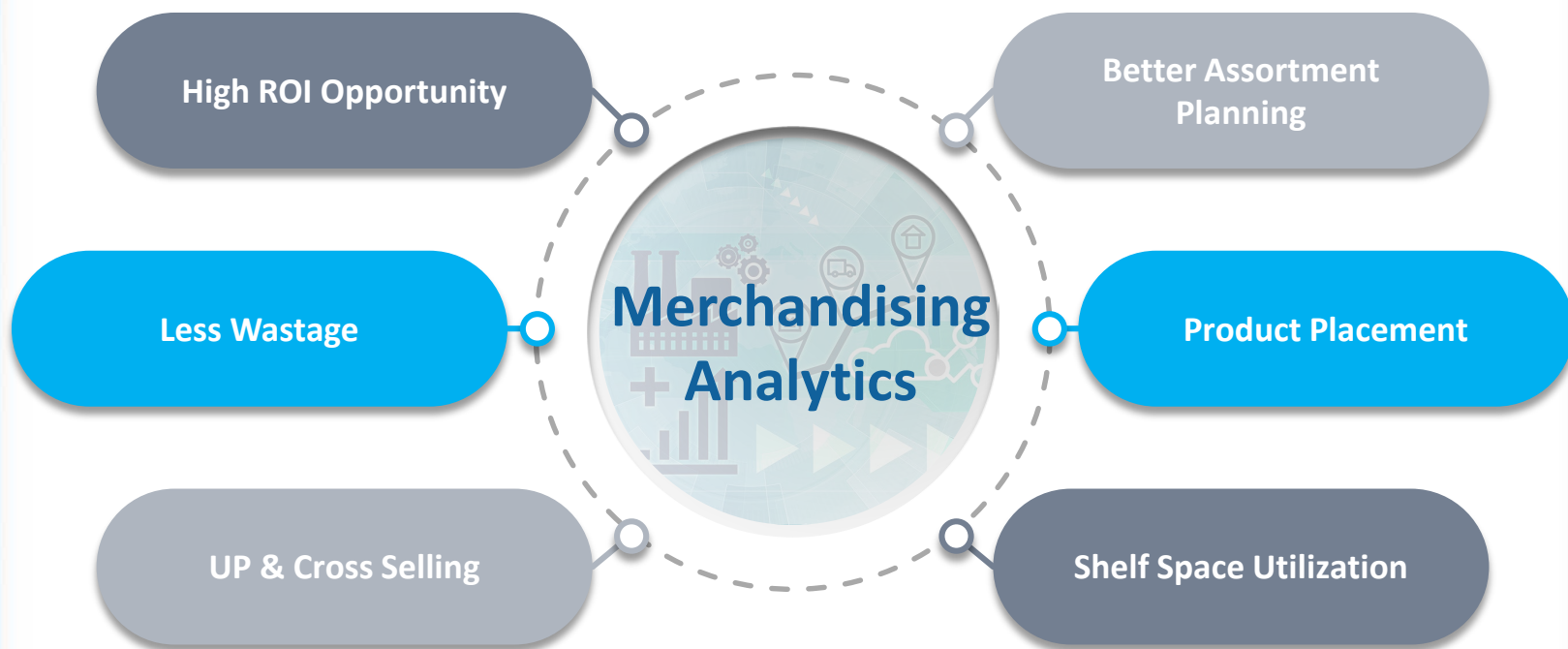
Retail Analytics Framework



Supply Chain Analytics Benefits



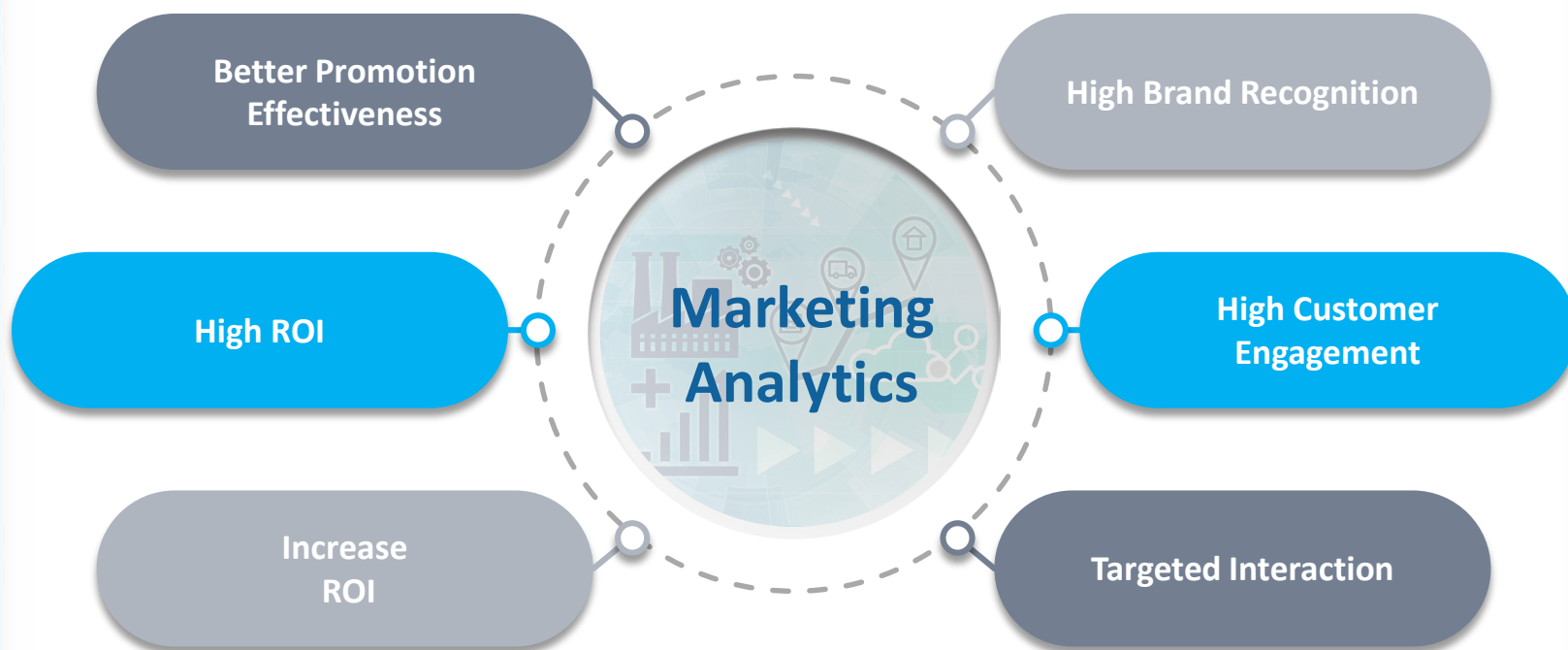
Merchandising Analytics Benefits



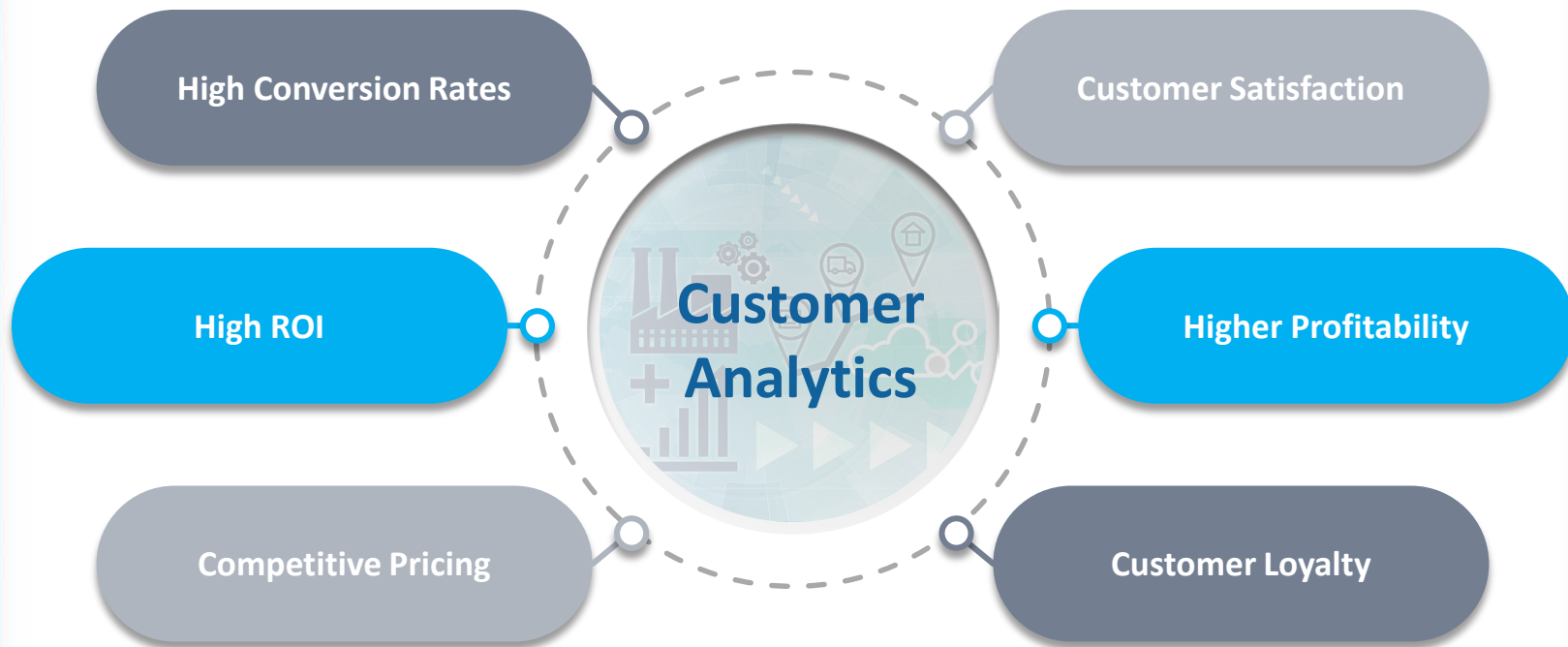
Store Operation Analytics Benefits



Marketing Analytics Benefits



Customer Analytics Benefits



Key Takeaways

Data Analytics is becoming a game changer in retail sector

Dimension of data has multiplied dramatically in last few years

Analytics is disrupting whole retail value chain as newer models are emerging

Shift from traditional practices to technology driven models required

Actuaries need to explore new avenues in retail industry



Thank You...



Q&A