**Delivering with Analytics for Hindustan Unilever Limited**

**Prelude to Retail Analytics**

**Retail analytics** focuses on providing insights related to sales, inventory, customers, and other important aspects crucial for merchants’ decision-making process. The discipline encompasses several granular fields to create a broad picture of a retail business’ health, and sales alongside overall areas for improvement and reinforcement. Essentially, retail analytics is used to help make better choices, run businesses more efficiently, and deliver improved customer service analytics.

For big retail players all over the world, data analytics is applied more these days at all stages of the retail process – taking track of popular products that are emerging, doing forecasts of sales and future demand via predictive simulation, optimizing placements of products and offers through heat-mapping of customers and many others. With this, identifying customers who would likely be interested in certain products depending on their past purchases, finding the most suitable way to handle them via targeted marketing strategies and then coming up with what to sell next is what data analytics deals with.

**The Context:**

**Hindustan Unilever Limited (HUL)** is a [consumer goods](https://en.wikipedia.org/wiki/Fast_moving_consumer_goods) company based in [Mumbai, Maharashtra](https://en.wikipedia.org/wiki/Mumbai,_Maharashtra). It is an whole & sole Indian Company which has Been merged with foreign company. It is a subsidiary of [Unilever](https://en.wikipedia.org/wiki/Unilever), a British-Dutch company. HUL's products include foods, beverages, [cleaning agents](https://en.wikipedia.org/wiki/Cleaning_agent), [personal care products](https://en.wikipedia.org/wiki/Personal_care_products) and water purifiers.

According to HUL[[1]](#footnote-1), India has been amongst one of the fastest growing markets for consumer products globally in the past two decades. The per capita consumption spend in India at $29 is among the lowest in the world, while Indonesia and China spend two and four times more, respectively. 

**Recent Initiatives and Project Maxima at HUL**

Hindustan Unilever Ltd (HUL), is re-imagining the way Indians shop at neighbourhood stores. Spread across 600,000 villages and 10 million outlets, general trade will continue to remain big in the next 10 years, HUL said in a presentation on its website on 6 June where it outlined Project Maxima[[2]](#footnote-2), which is focused on precision marketing at scale.

The re-imagining of its supply chain and corner shop strategy is part of the company’s bigger initiative undertaken over the last four years for its entire business with initiatives like Winning in Many Indias (WiMi), which divides the country into 14 zones. Also, management is decentralized with the formation of Cluster Category Business Teams, which are mini-boards for brand building and marketing.

The Indian arm of Unilever Plc will achieve this through the use of predictive analytics, cloud technology, Internet of Things and artificial intelligence. As per companies spokesperson “HUL’s data strategy would be how do we acquire, how do we store, how do we use this data and how do we manage it. In this VUCA (volatility, uncertainty, complexity and ambiguity) world, HUL will prefer to disrupt than be disrupted,”.

The company is using predictive analytics, to gauge demand, volume, sales and profit scenarios under different simulated scenarios. Also, with the use of artificial intelligence, the software keeps improvising itself. The company seeks to reduce the error percentages below 4 %.

**Your Role**

Imagine yourself as Data Scientist who have been appointed by HUL . Your preliminary tasks involve analysis of the data as available in the folder of your system.

**Data Details:**

|  |  |  |
| --- | --- | --- |
| **Data Sets** | **Variable** | **Brief Explaination or Working Definition** |
| Data : ATW Fairness Data | Penetration | Annual - Availability in # of households / Total Universe |
|  | SORVol | Share of Requirement |
|  | BE Score | Brand Equity Score |
|  | Total Spont | Spontaneous Awareness |
|  | Total Awareness | Total Awareness |
|  | Conviction | Conviction |
|  | Relevance | Relevance |
|  | Presence | Availability |

|  |  |  |
| --- | --- | --- |
| **Data Sets** | **Variable** | **Brief Explaination or Working Definition** |
| Data Used for ATW | Market | States - Use only the total rows (avoid metros/TC1…) |
|  | Product | Brand - FAL = Fair & Lovely, Ponds WB is Ponds White Beauty |
|  | WDValpct | Weighted Value Distribution |
|  | RPI | Relative Price Index (wrt category) |
|  | Conviction | Conviction |

|  |  |  |
| --- | --- | --- |
| **Data Sets** | **Variable** | **Brief Explaination or Working Definition** |
| Drivers\_data\_msl/Drivers\_data\_psl | Salvol | Sales volume |
|  | Price | Price |
|  | Projn | (Ignore this column) |
|  | Wdvalpct | Weighted Value Distribution |
|  | Assortment | # of SKUs per outlet |
|  | gdp | GDP |
|  | employment | employment |
|  | pdi | Personal disposable Income |
|  | cs | Consumer spending |
|  | tot\_urban\_hhlds | Total Urban Households |
|  | tot\_hhlds | Total Households |
|  | tot\_hhlds\_bank\_fac | Total Households having Bank facilities |
|  | state\_highway\_len | State Highway accessibility |
|  | per\_cap\_elect\_cons | Per capita electricity consumption |
|  | num\_bank\_branches | Number of bank branches |
|  | gdp\_hhld | GDP per household |
|  | literacy | Literacy rate |
|  | Pop\_F | Female population |
|  | Pop\_M | Male population |
|  | Pop\_T | Total population |
|  | PCI | Per capita income |
|  | Sex\_Ratio | Sex ratio |

|  |  |  |
| --- | --- | --- |
| **Data Sets** | **Variable** | **Brief Explaination or Working Definition** |
| Forecast Category and Brand Level | Market | States - Use only the total rows (avoid metros/TC1…) |
|  | Level | Use only WIMI (it means the region clusters) |
|  | Fact | Self Explanatory |
|  | Population | Population |
|  |  |  |
| Data Sets | Variable | Brief Explaination or Working Definition |
| MSL/PSL Input File | ASM+NE\_Vol | Assam |
|  | Bihar\_Vol | Bihar |
|  | DelNCR\_Vol | Delhi NCR |
|  | GJ\_Vol | Gujrat |
|  | GreMah\_Vol | Greater Maharashtra |
|  | KK\_Vol | Kerela / Karnataka |
|  | MCR\_Vol | MP/Chhatisgarh/Rajasthan |
|  | Mum+Pun\_Vol | Mumbai/ Pune |
|  | OJ\_Vol | Orissa/Jharkhand |
|  | PHH\_Vol | Punjab/Haryana/Himachal |
|  | TN\_Vol | Tamil Nadu, Uttar Pradesh |
|  | ------------------ |  |
|  | WB\_Vol | West Bengal…..so on |
|  |  |  |

**Expectations from the analysis:**

As a data scientist, you have to maximize the insights provided to the management with in the available data . Your analysis shall be expansive and not limited to following indicative list of objectives.

1. Identify and prioritize brand and market opportunities.
2. Identifying key geo clusters of focus based on the size of prize in 2020
3. HUL Brands’ Ability to Win in these markets
4. Estimate of Brand’s Size of Prize in 2020.

1. Read more at:  
   [//economictimes.indiatimes.com/articleshow/64504715.cms?utm\_source=contentofinterest&utm\_medium=text&utm\_campaign=cppst](https://economictimes.indiatimes.com/articleshow/64504715.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst) [↑](#footnote-ref-1)
2. <https://www.livemint.com/Companies/T0AY6hTLNChpGbaag1xaWL/HUL-to-use-Artificial-Intelligence-to-predict-your-grocery-n.html> [↑](#footnote-ref-2)