To understand market change we need to understand total market energy consumption and savings.
MEASURING CHANGE

Sales Data
BUT IT’S NOT THAT EASY. OFTEN, MARKET ACTORS...

1. Don’t want to share
2. Proprietary market share data
3. Don’t have systems to provide what we need
DATA SOURCES

Sales Data
Shelf Stocking Data

Company Websites
Product Catalogs
Financial Reports
Conference Materials
Trade Associations

Sales Data
Shelf Stocking Data
EVERY RETAILER IS UNIQUE
The Chain Logic Method weights data points into a market average for a given application and year.
Example

RESIDENTIAL LIGHTING
Sales Data

Nielsen Sales Data

Regional CFL and LED Sales Data from CLEAResult

Sales Data from one Online Retailer

2011-2015

2014

2015
KEY ASSUMPTIONS

Shelf stocking pattern = Sales
Validated through market actor interviews
Retailers | Market Share
--- | ---
|  | 28% |
|  | 42% |
|  | 12% |
|  | 8% |

Market Average

- Wattage
- Cost
- Efficacy
- Tech Shares
- Lumens
Example

What was the average wattage of reflector bulbs in the 250-1049 lumen bin in 2015?
2-PART METHODOLOGY

Part 1
Retailer Market Shares

Part 2
Market Average
Part 1
ASSIGN RETAILER MARKET SHARES
SEGMENT THE MARKET INTO DISTINCT CHANNELS, ASSIGN MARKET SHARE TO EACH MARKET CHANNEL

- **52%** DIY
- **33%** Mass Merchandise and Club Stores
- **15%** Small Hardware
Example

If 5% of all bulbs are sold online, and online retailer sells 10 bulbs, that implies total market is 200 bulbs.

If 50% of market is residential = 100 bulbs.

40% of online retailer sales are residential = 4 bulbs.

4 bulbs sold online to residential customers of 100 total residential bulbs implies online retailers have 4% market share.
50% DIY

32% Mass Merchandise and Club Stores

14% Small Hardware

4% Online
50% DIY

DIY 1
DIY 2

32% Mass Merchandise and Club Stores
MM/Club 1  MM/Club 2
MM/Club 3  MM/Club 4
MM/Club 5  MM/Club 6

14% Small Hardware
SH 1
SH 2

4% Online
OR 1
KEY ASSUMPTIONS

Online Retailer Representative of Online Channel
DETERMINE THE RELATIVE SHARE OF EACH RETAILER WITHIN EACH CHANNEL

1. Used for DIY and Hardware. Uses total available lamps stocked.

2. Used actual share of channel sales for one retailer within the MM/Club channel.
## APPROACH 1

*Used for DIY and Hardware*

<table>
<thead>
<tr>
<th>Store Count</th>
<th>Average Lamps per Store</th>
<th>Total Regional Lamps</th>
<th>Market Share Within Channel</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DIY 1</strong></td>
<td>250</td>
<td>750</td>
<td>75%</td>
</tr>
<tr>
<td><strong>DIY 2</strong></td>
<td>250</td>
<td>250</td>
<td>25%</td>
</tr>
</tbody>
</table>
APPROACH 2

Used for one MM/Club Retailer

2014 Lamp Sales

Total Mass Merchandise and Club Store Channel

200,000

XYZ's share of overall market = (XYZ'z share of Total Mass Merchandise and Club Store Sales) \times (Mass Merchandise and Club Store Channel Share)

XYZ's share of overall market = \frac{50,000}{200,000} \times 32\% = 8\%
COMPUTE RETAILER’S SHARE OF THE OVERALL MARKET

<table>
<thead>
<tr>
<th>Channel</th>
<th>Channel Share of Retail (A)</th>
<th>Retailer</th>
<th>Market Share within Channel (B)</th>
<th>Final Overall Retailer Share (A*B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIY</td>
<td>50%</td>
<td>DIY 1</td>
<td>60%</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DIY 2</td>
<td>40%</td>
<td>20%</td>
</tr>
<tr>
<td>Retailer Channel</td>
<td>Channel Share of Retail</td>
<td>Retailer</td>
<td>Final Retailer Shares</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>-------------------------</td>
<td>----------------</td>
<td>-----------------------</td>
<td></td>
</tr>
<tr>
<td>50%</td>
<td></td>
<td>DIY 1</td>
<td>30.0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>DIY 2</td>
<td>20.0%</td>
<td></td>
</tr>
<tr>
<td>32%</td>
<td></td>
<td>MM/Club 1</td>
<td>12.1%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MM/Club 2</td>
<td>3.8%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MM/Club 3</td>
<td>0.4%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MM/Club 4</td>
<td>8.5%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MM/Club 5</td>
<td>0.3%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MM/Club 6</td>
<td>6.9%</td>
<td></td>
</tr>
<tr>
<td>14%</td>
<td></td>
<td>SH 1</td>
<td>11.2%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SH 2</td>
<td>2.1%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SH 3</td>
<td>0.7%</td>
<td></td>
</tr>
<tr>
<td>4%</td>
<td></td>
<td>OR 1</td>
<td>4.0%</td>
<td></td>
</tr>
</tbody>
</table>
KEY ASSUMPTIONS

Retailer shares held constant

2011 2012 2013 2014 2015
Part 2
CALCULATE MARKET AVERAGE
<table>
<thead>
<tr>
<th></th>
<th>DIY 1</th>
<th>DIY 2</th>
<th>MM1</th>
<th>MM2</th>
<th>MM3</th>
<th>MM4</th>
<th>MM5</th>
<th>MM6</th>
<th>SH1</th>
<th>SH2</th>
<th>SH3</th>
<th>OR1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retailer market share</td>
<td>30%</td>
<td>20%</td>
<td>12%</td>
<td>3.8%</td>
<td>.4%</td>
<td>8.5%</td>
<td>.3%</td>
<td>6.9%</td>
<td>11.2%</td>
<td>2.1%</td>
<td>.7%</td>
<td>4%</td>
</tr>
</tbody>
</table>

**Simple SUMPRODUCT**

| Average Wattage | 19 | 36 | 17 | 20 | 16 | 14 | 40 | 21 | 18 | 30 | 24 | 16 |

Market Average Wattage = 22
The Chain Logic Method gives us a comprehensive picture of the market, allowing us to understand market change.
We update the methodology as **new** and **better information** becomes available.
Applicable across a variety of markets and products.