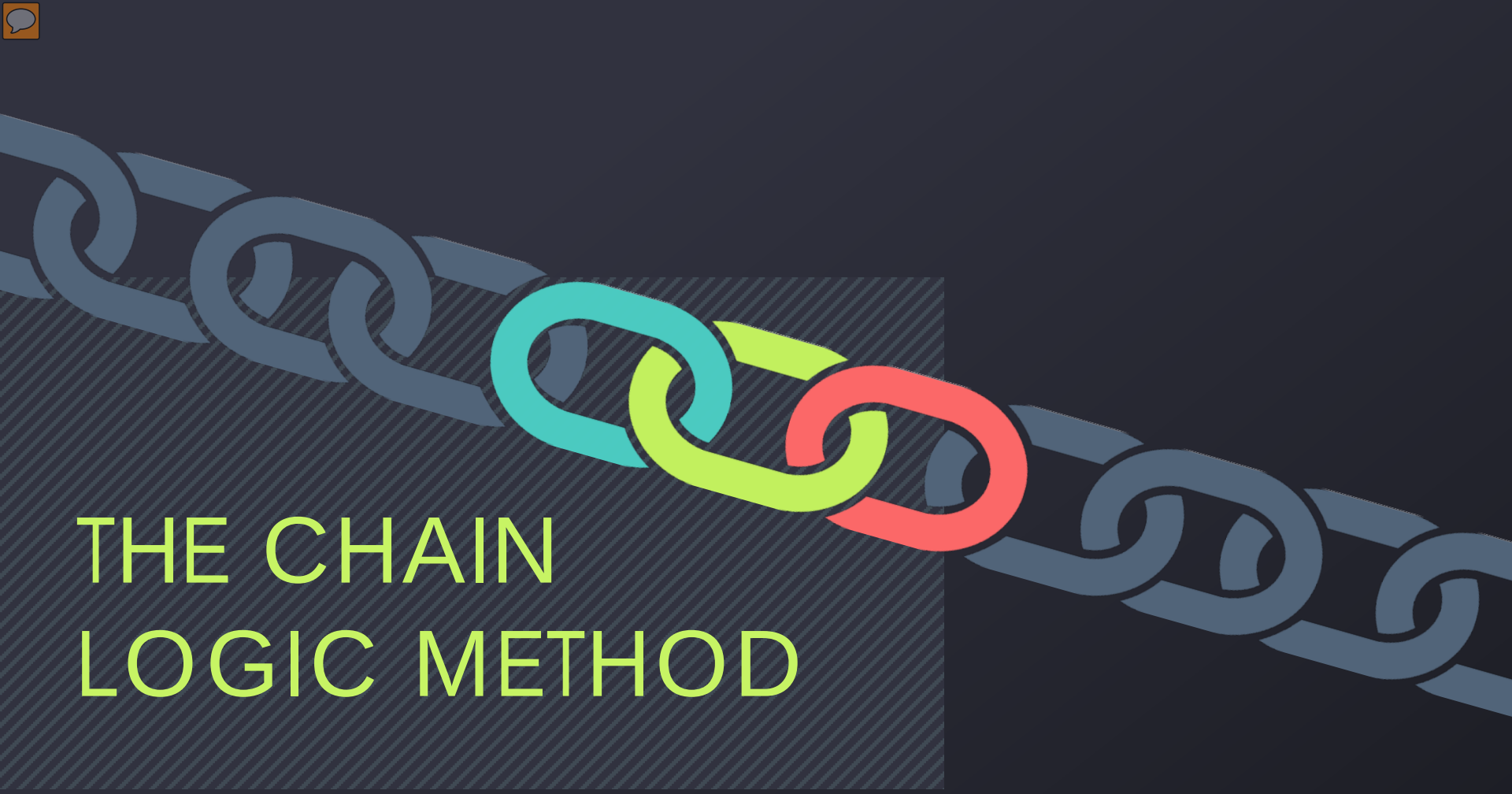
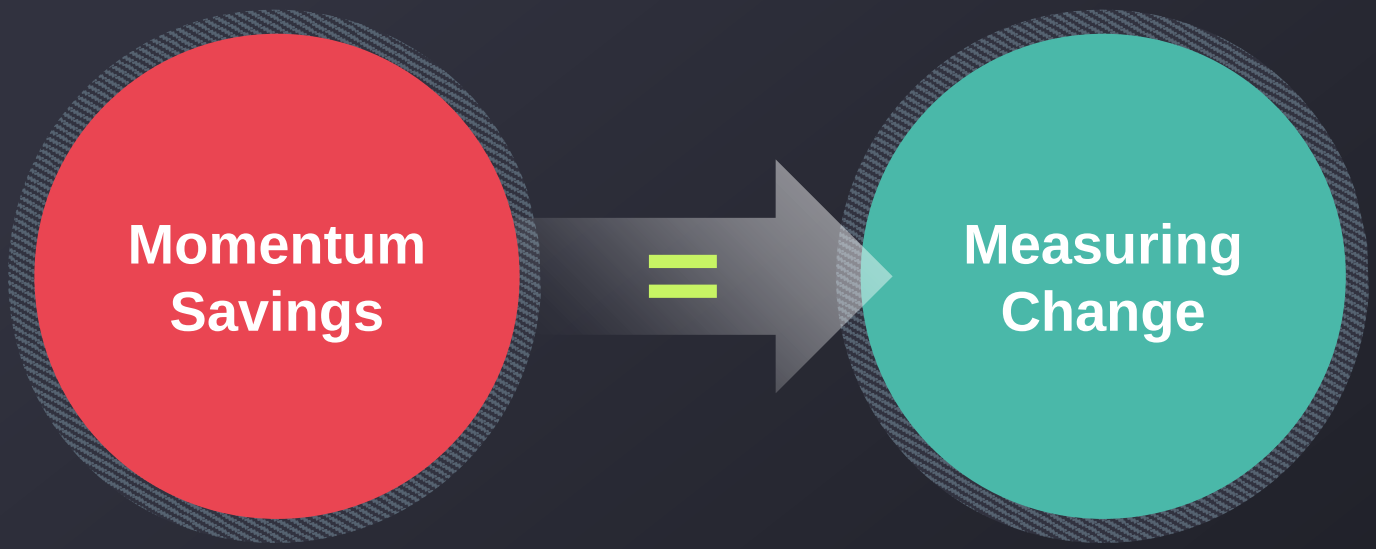


THE CHAIN LOGIC METHOD

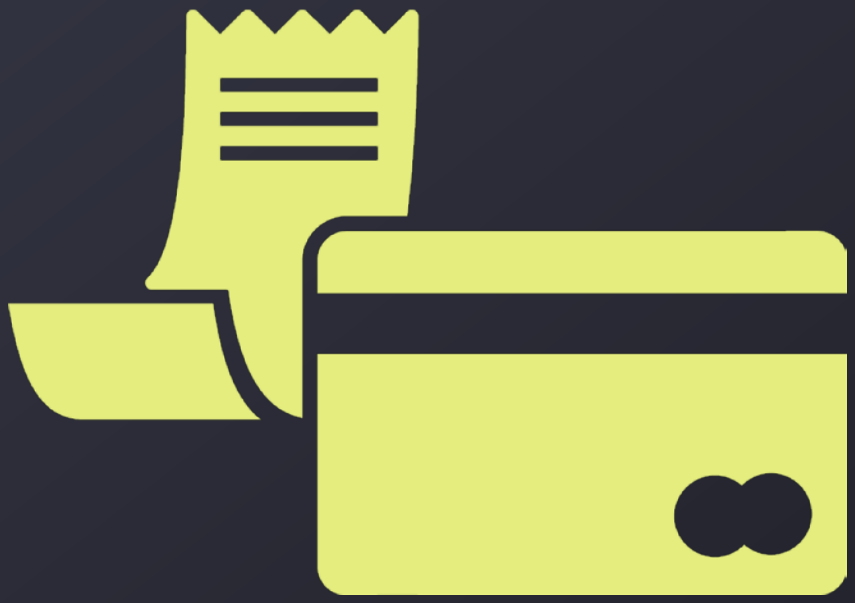
September 2016

Bonneville
POWER ADMINISTRATION



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

NEMA

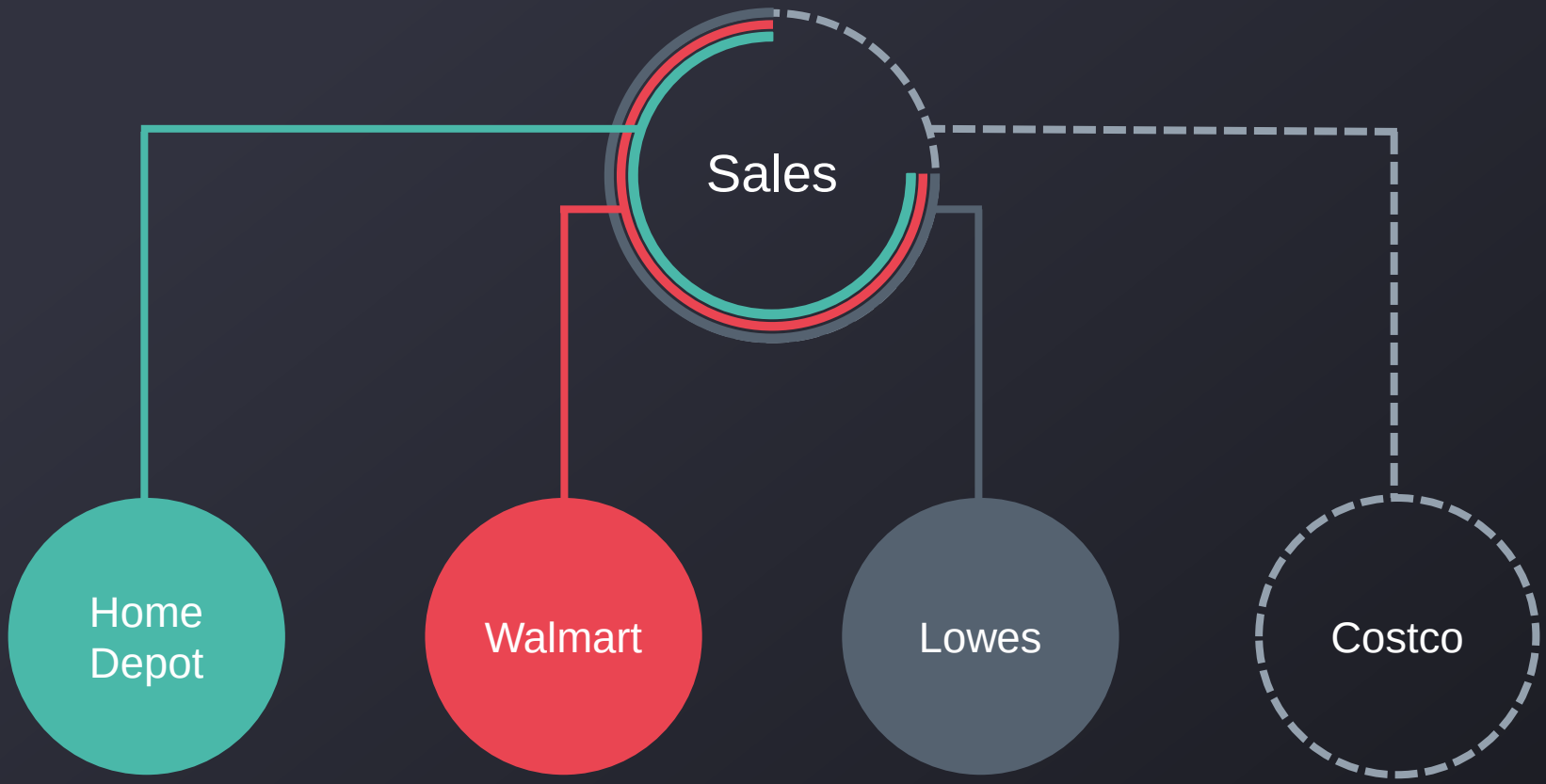
AHRI

Trade Associations


NEMA
AHRI


NEMA
AHRI

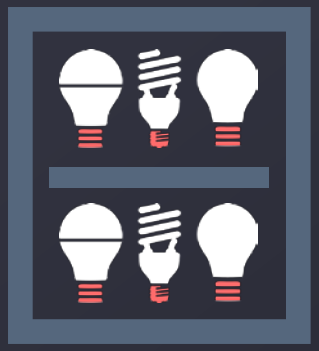
EVERY RETAILER IS UNIQUE



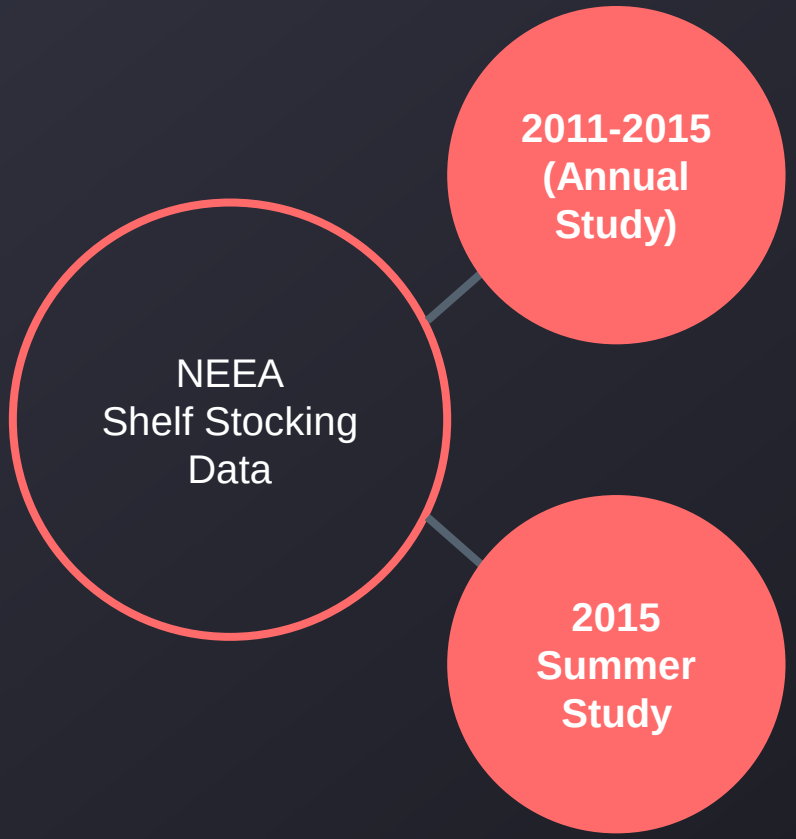
The Chain Logic Method weights data points into a **market average** for a given application and year.

Example

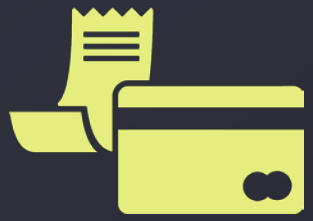
RESIDENTIAL LIGHTING



Shelf Stocking Data



Sales Data



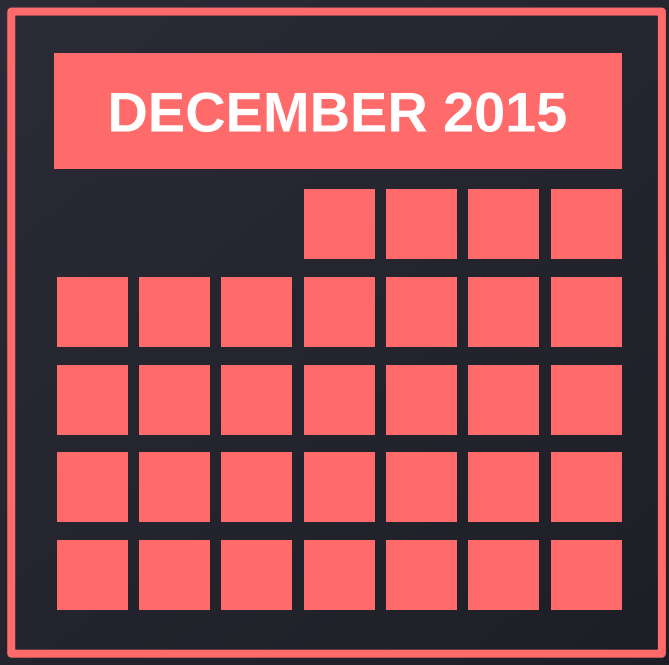
Nielsen Sales Data	2011-2015
Regional CFL and LED Sales Data from CLEAResult	2014
Sales Data from one Online Retailer	2015

KEY ASSUMPTIONS

Sales Data

=

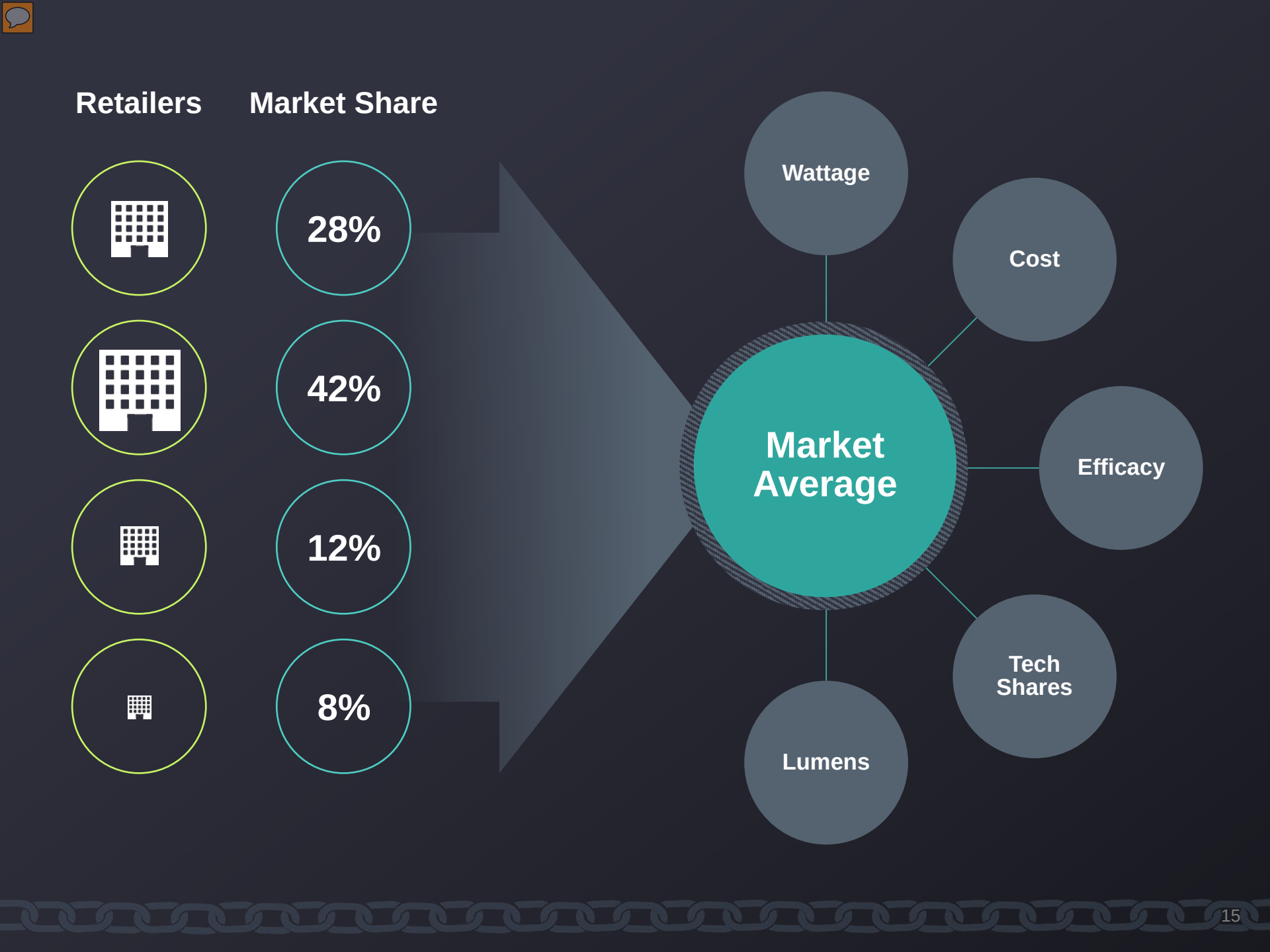
Shelf Data



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

ESTIMATE ONLINE RETAILER SHARE

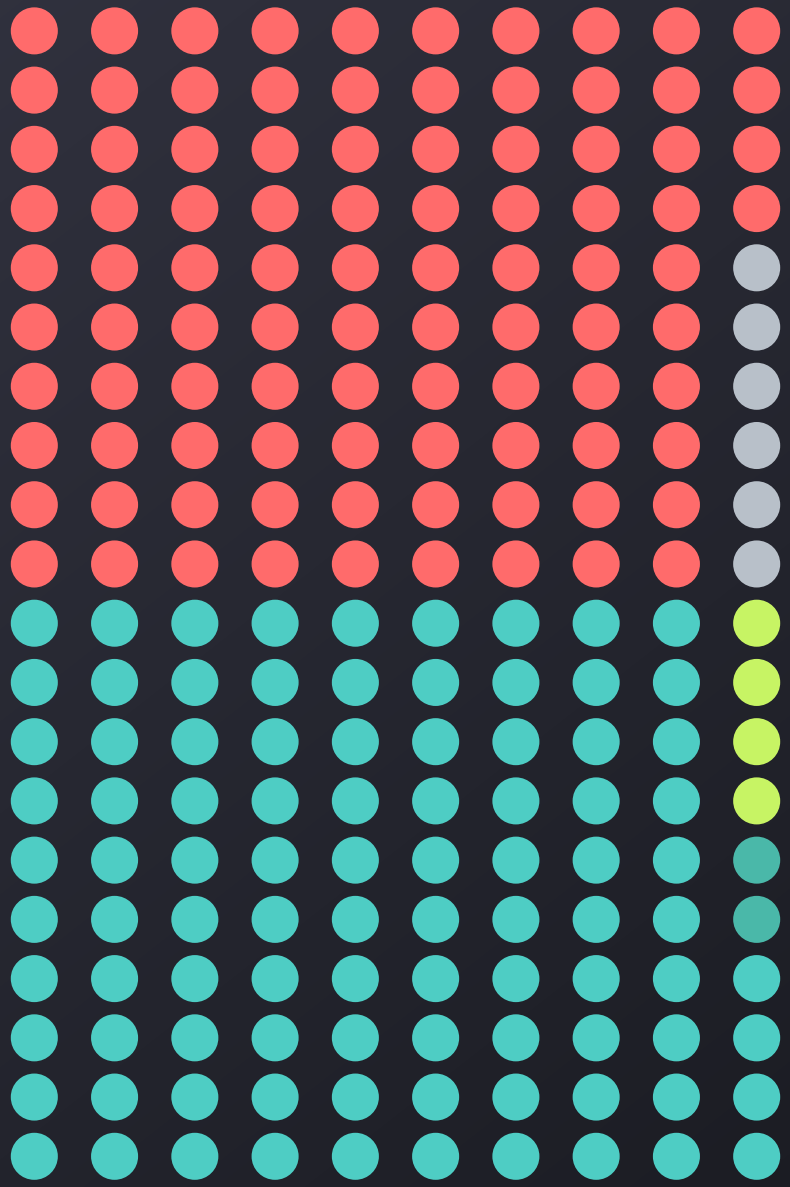
Example

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 APPROACH

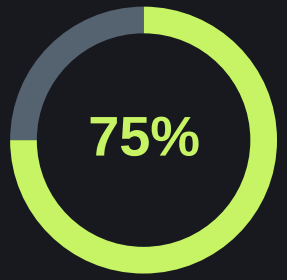
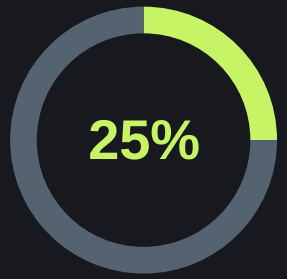
Used for DIY and Hardware. Uses total available lamps stocked.

2 APPROACH

Used actual share of channel sales for one retailer within the MM/Club channel.

APPROACH 1

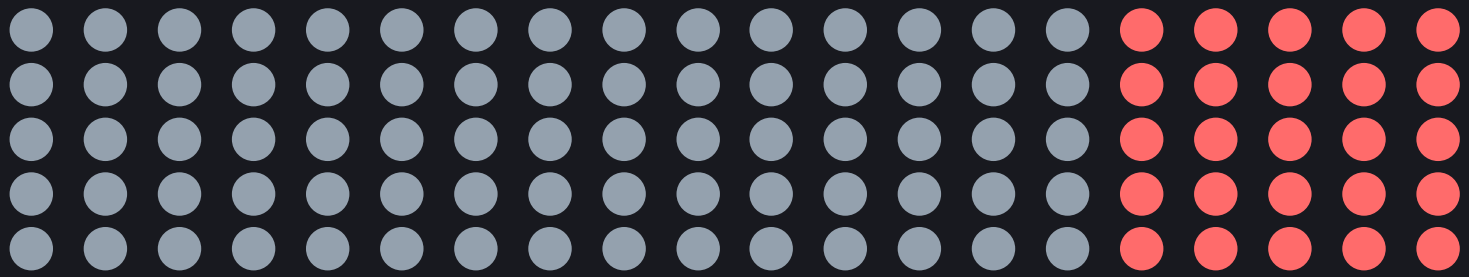
Used for DIY and Hardware

	Store Count	Average Lamps per Store	Total Regional Lamps	Market Share Within Channel
DIY 1		250	750	
DIY 2		250	250	

APPROACH 2

Used for one MM/Club Retailer

2014 Lamp Sales



MM/Club Retailer XYZ
50,000

Total Mass Merchandise and Club Store Channel
200,000

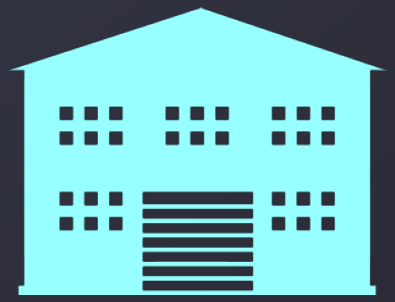
XYZ's share of overall market	=	(XYZ'z share of Total Mass Merchandise and Club Store Sales)	*	(Mass Merchandise and Club Store Channel Share)

XYZ's share of overall market = (50,0000/200,000) * 32% = **8%**

COMPUTE RETAILER'S SHARE OF THE OVERALL MARKET

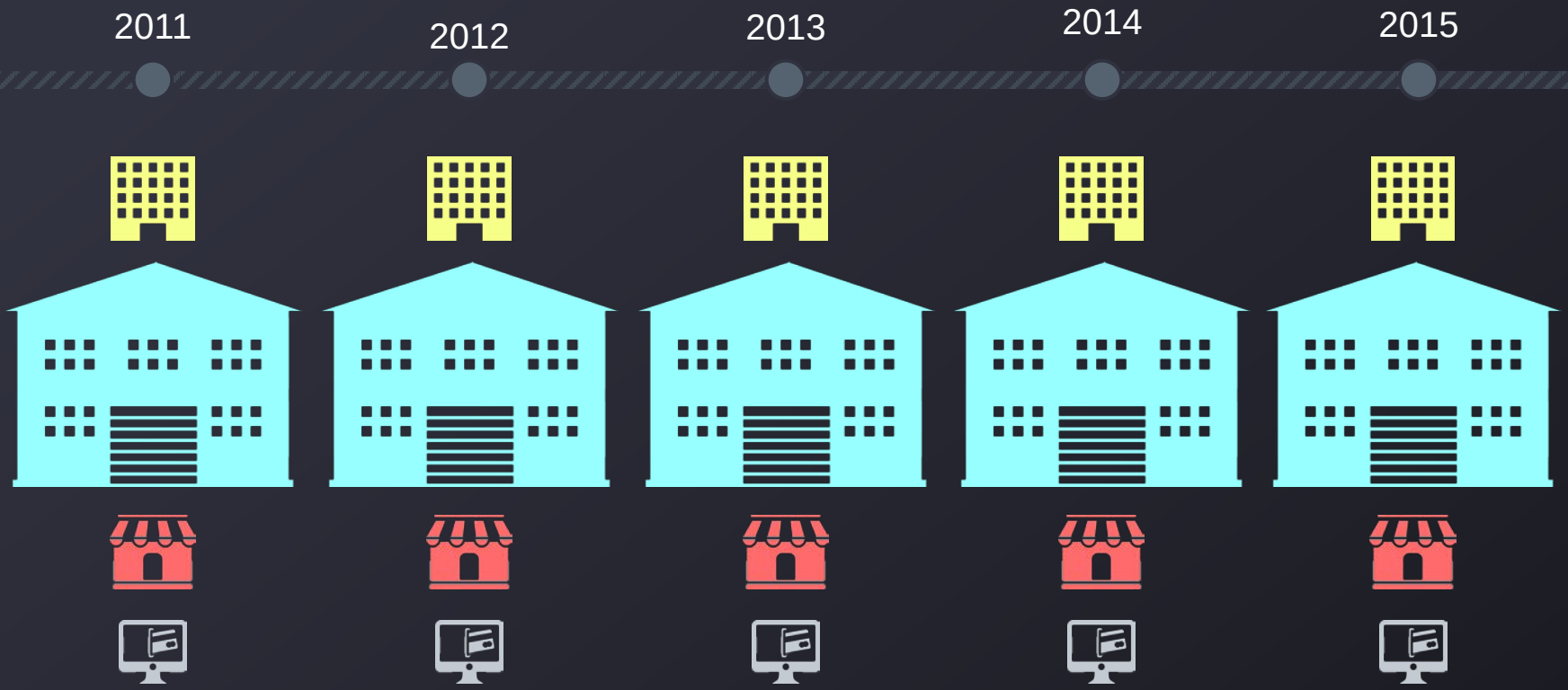
Channel	Channel Share of Retail (A)	Retailer	Market Share within Channel (B)	**Final Overall Retailer Share (A*B)**
 DIY	50%	DIY 1	60%	**30%**
		DIY 2	40%	**20%**

FINAL RETAILER MARKET SHARES

Retailer Channel	Channel Share of Retail	Retailer	Final Retailer Shares
	50%	DIY 1	30.0%
		DIY 2	20.0%
	32%	MM/Club 1	12.1%
		MM/Club 2	3.8%
		MM/Club 3	0.4%
		MM/Club 4	8.5%
		MM/Club 5	0.3%
		MM/Club 6	6.9%
	14%	SH 1	11.2%
		SH 2	2.1%
		SH 3	0.7%
	4%	OR 1	4.0%

KEY ASSUMPTIONS

Retailer shares held constant



Part 2

CALCULATE MARKET AVERAGE

	DIY 1	DIY 2	MM1	MM2	MM3	MM4	MM5	MM6	SH1	SH2	SH3	OR1
Retailer market share	30%	20%	12%	3.8%	.4%	8.5%	.3%	6.9%	11.2%	2.1%	.7%	4%

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**.

APPENDIX