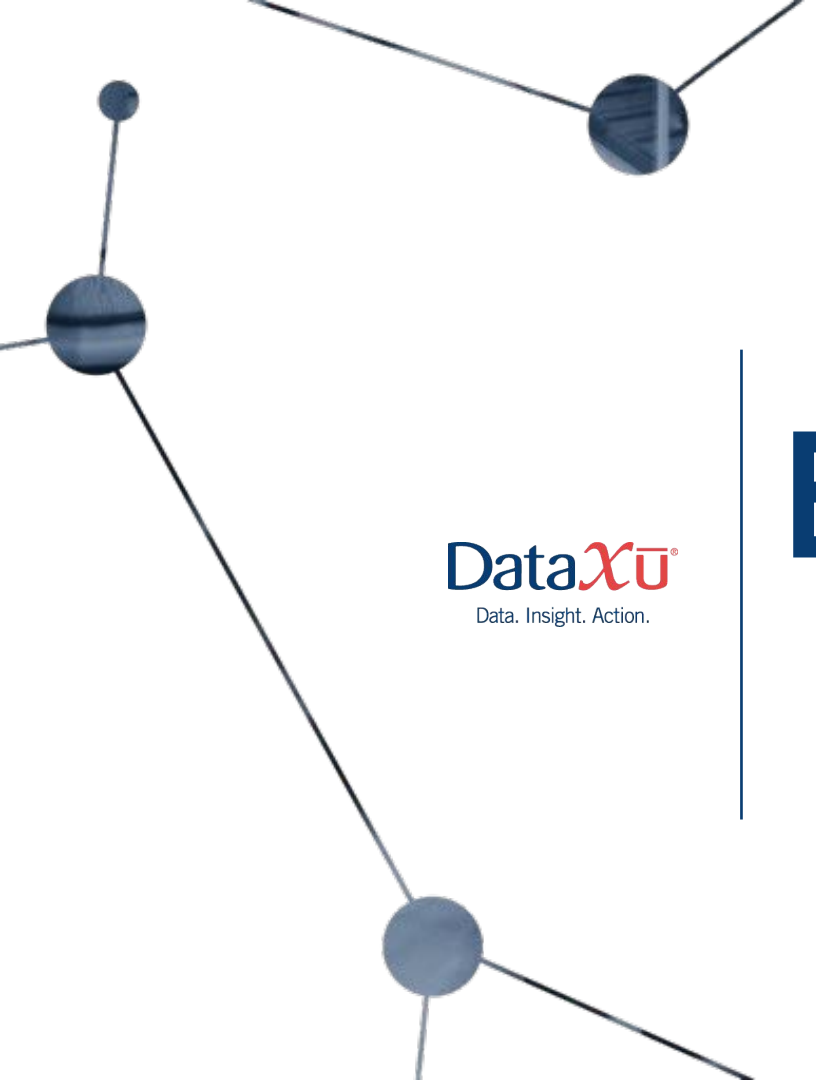


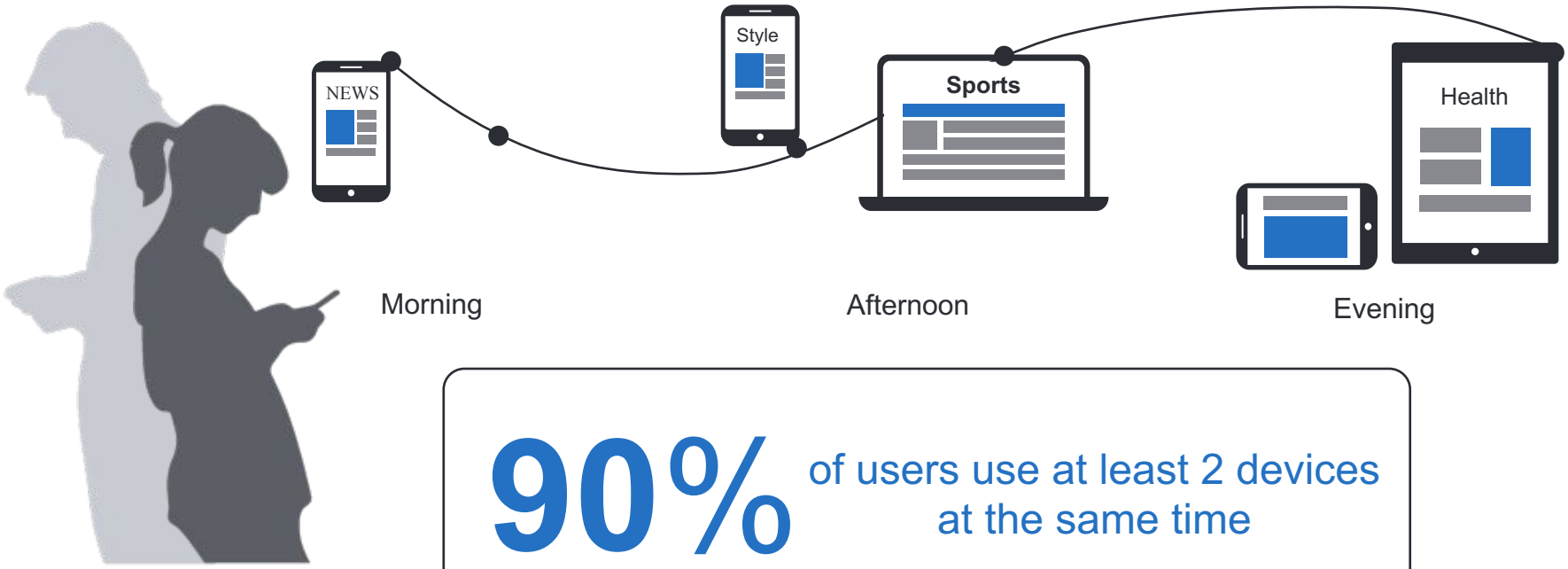
DataXu®
Data. Insight. Action.

Building Bridges

Adam Markey
Sr. Director
TV Solutions

Priti Ohri
Director
Global Solutions

Today's Reality



90% of users use at least 2 devices at the same time

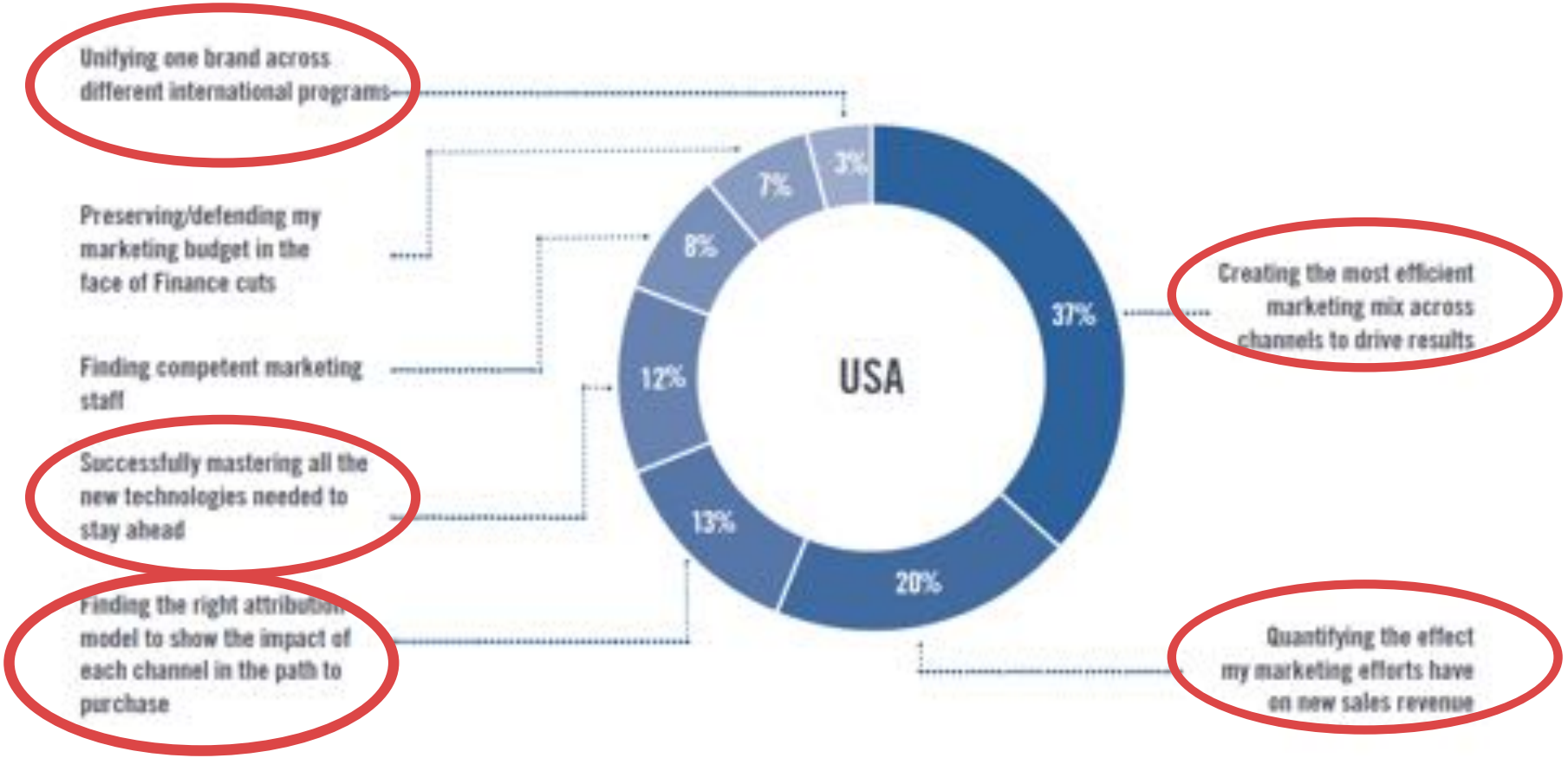
Source: United Internet Media, Catch Me If You Can!



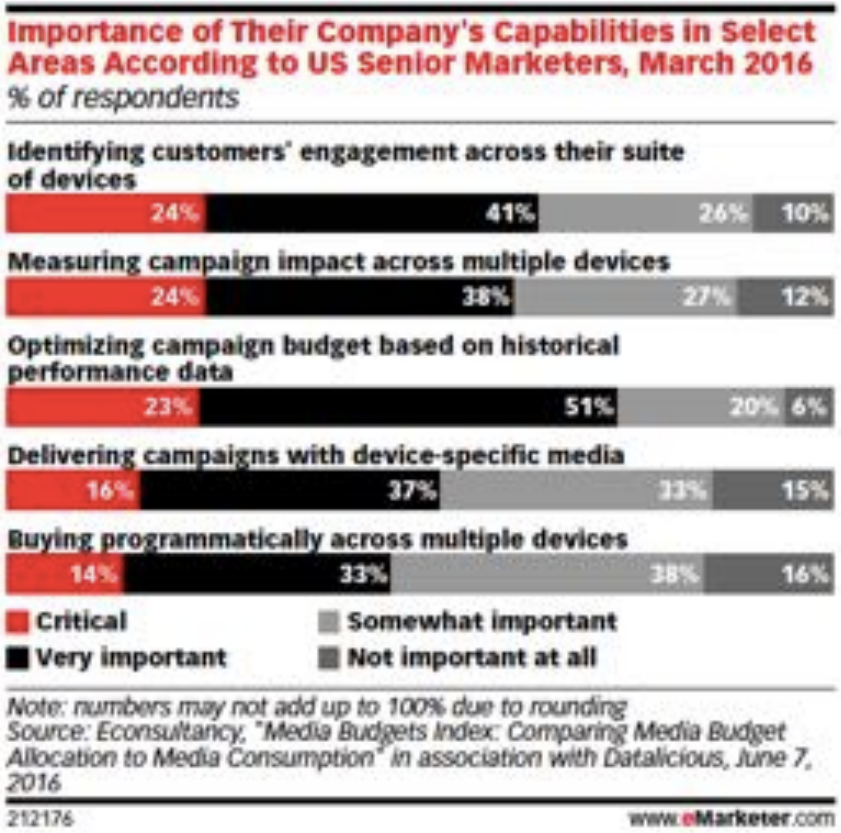
Activity:

1. What does cross-device mean to you?
2. What are the biggest opportunities you see it creating?

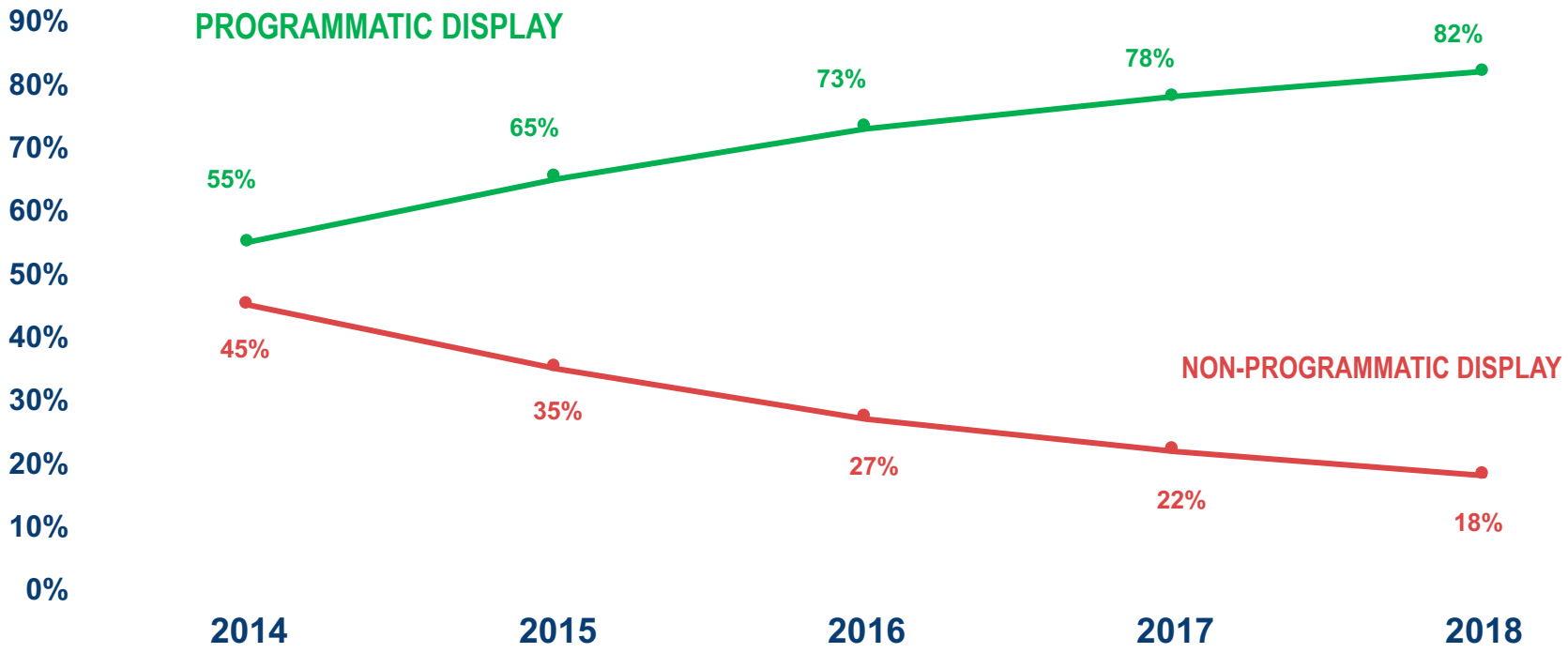
What is the biggest marketing challenge you face today?



Cross-Device is Top of Mind

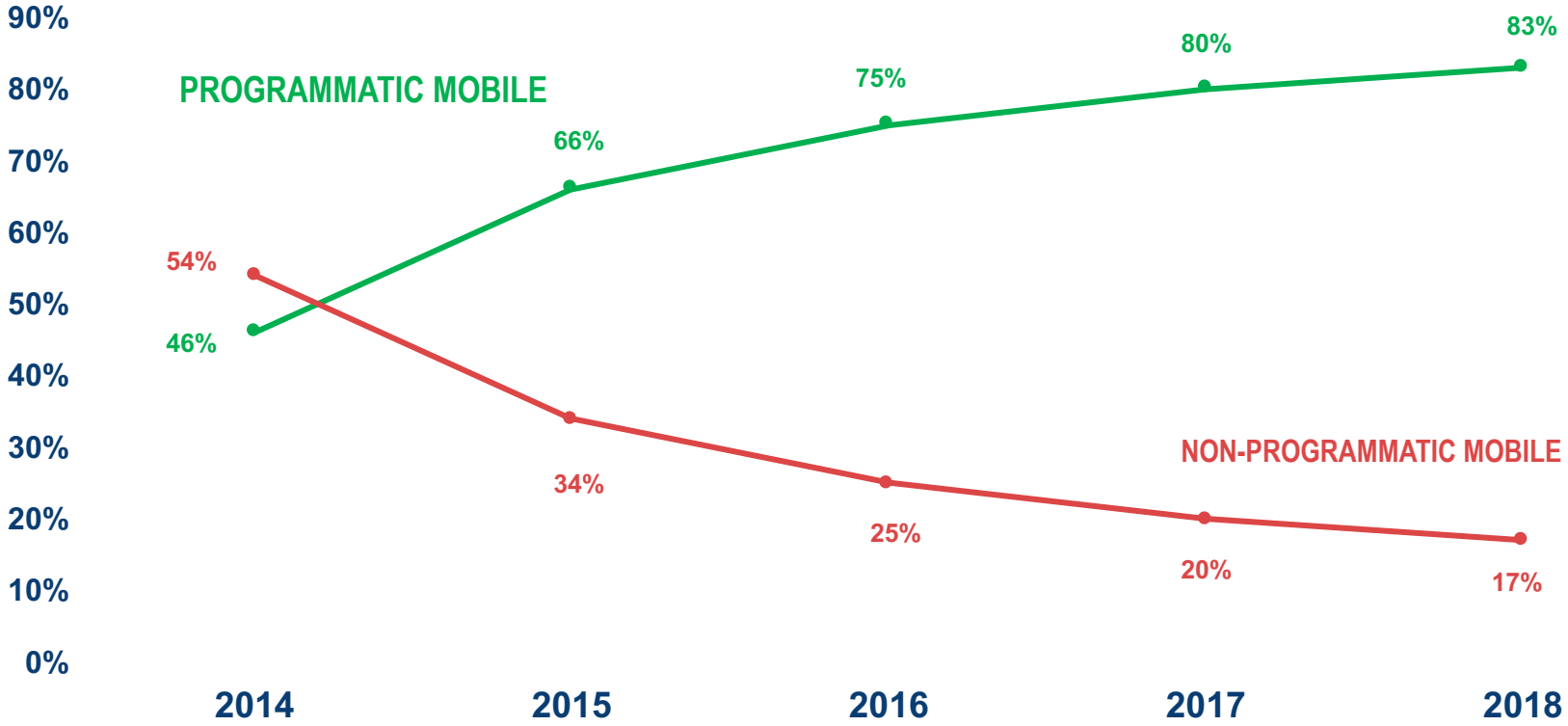


U.S. Programmatic Digital Display Ad Spending 2014-2018



*Source: *eMarketer U.S. Programmatic Forecast Q3 2016 Report*
***Research and Markets. "Global Programmatic Advertising Spending Market 2016-2020" May 2016*

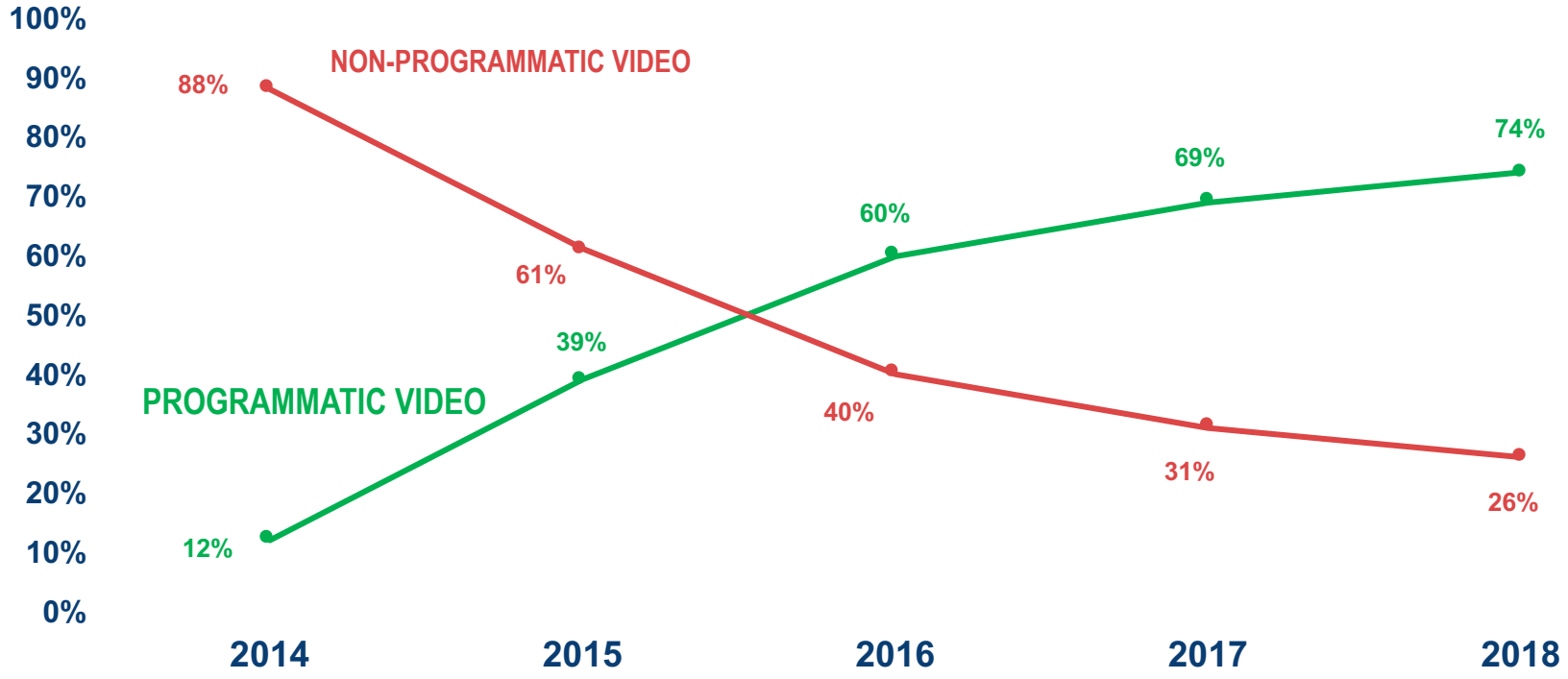
U.S. Programmatic Mobile Ad Spending 2014-2018



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*Source: *eMarketer U.S. Programmatic Forecast Q3 2016 Report*

U.S. Programmatic Video Ad Spending 2014-2018



*Source: *eMarketer U.S. Programmatic Forecast Q3 2016 Report*

Digital Will Outpace TV by 2017



US Total Media Ad Spending Share, by Media, 2014-2020

% of total

	2014	2015	2016	2017	2018	2019	2020
TV*	39.1%	37.7%	36.8%	35.8%	34.8%	33.7%	32.9%
Digital	28.3%	32.6%	35.8%	38.4%	40.8%	43.1%	44.9%
—Mobile	10.9%	17.3%	22.7%	26.2%	28.8%	31.0%	32.9%
Print	17.4%	15.4%	13.9%	12.9%	12.2%	11.6%	11.1%
—Newspapers**	9.1%	8.0%	7.2%	6.6%	6.1%	5.7%	5.5%
—Magazines**	8.3%	7.4%	6.8%	6.4%	6.1%	5.8%	5.6%
Radio***	8.4%	7.8%	7.4%	7.0%	6.7%	6.4%	6.1%
Out-of-home	4.0%	4.0%	3.9%	3.8%	3.7%	3.5%	3.4%
Directories**	2.8%	2.5%	2.2%	2.0%	1.9%	1.7%	1.6%

Note: *excludes digital; **print only; excludes digital; ***excludes off-air radio & digital

Source: eMarketer, March 2014



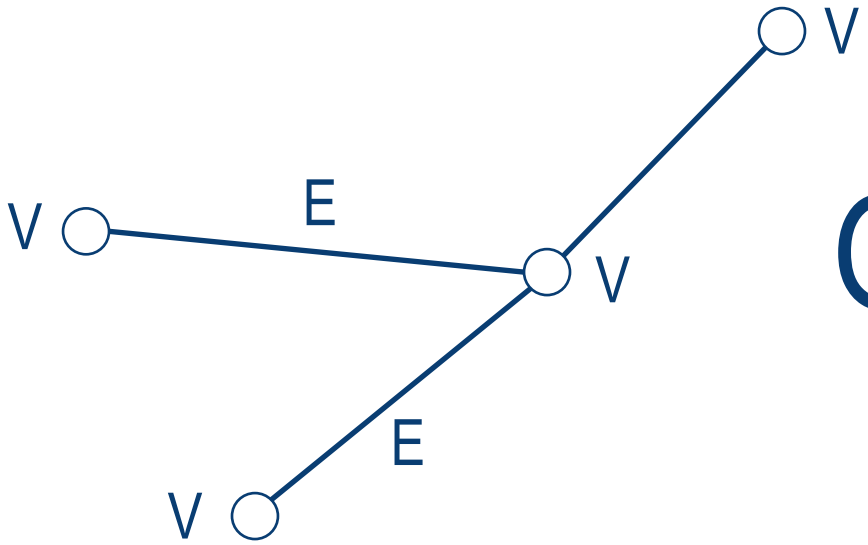
Mobile is media’s link to the real world





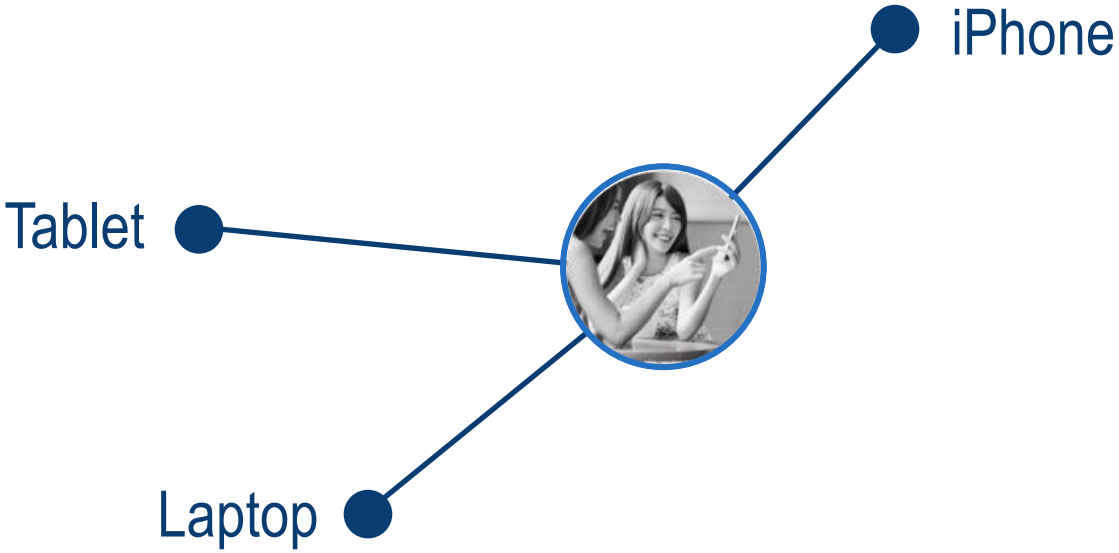
Bridging the TV-Digital Data Gap

What is a Graph?

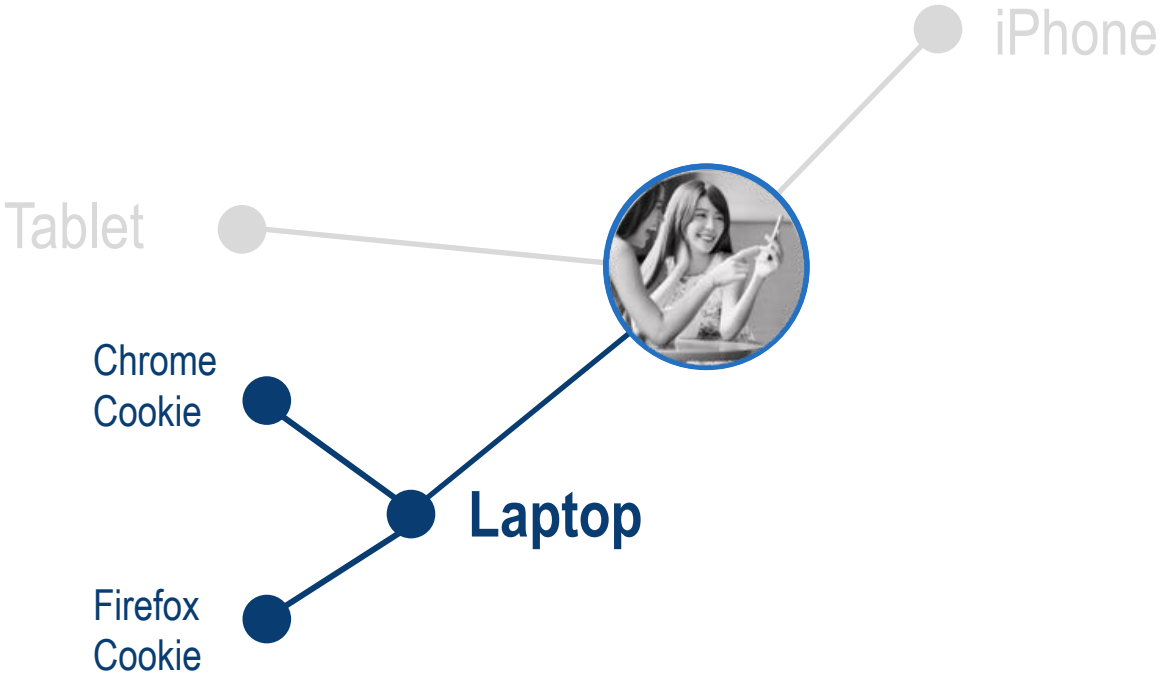


$$G = (V,E)$$

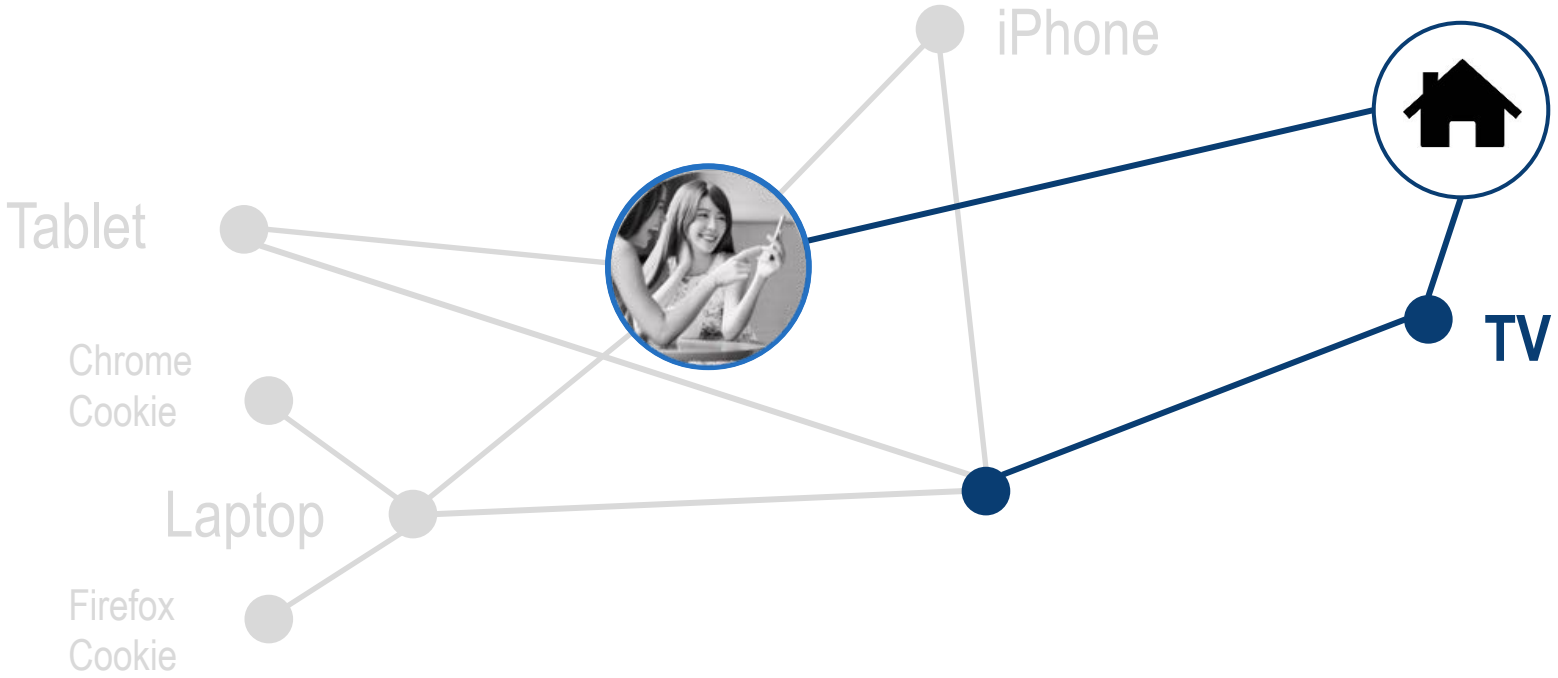
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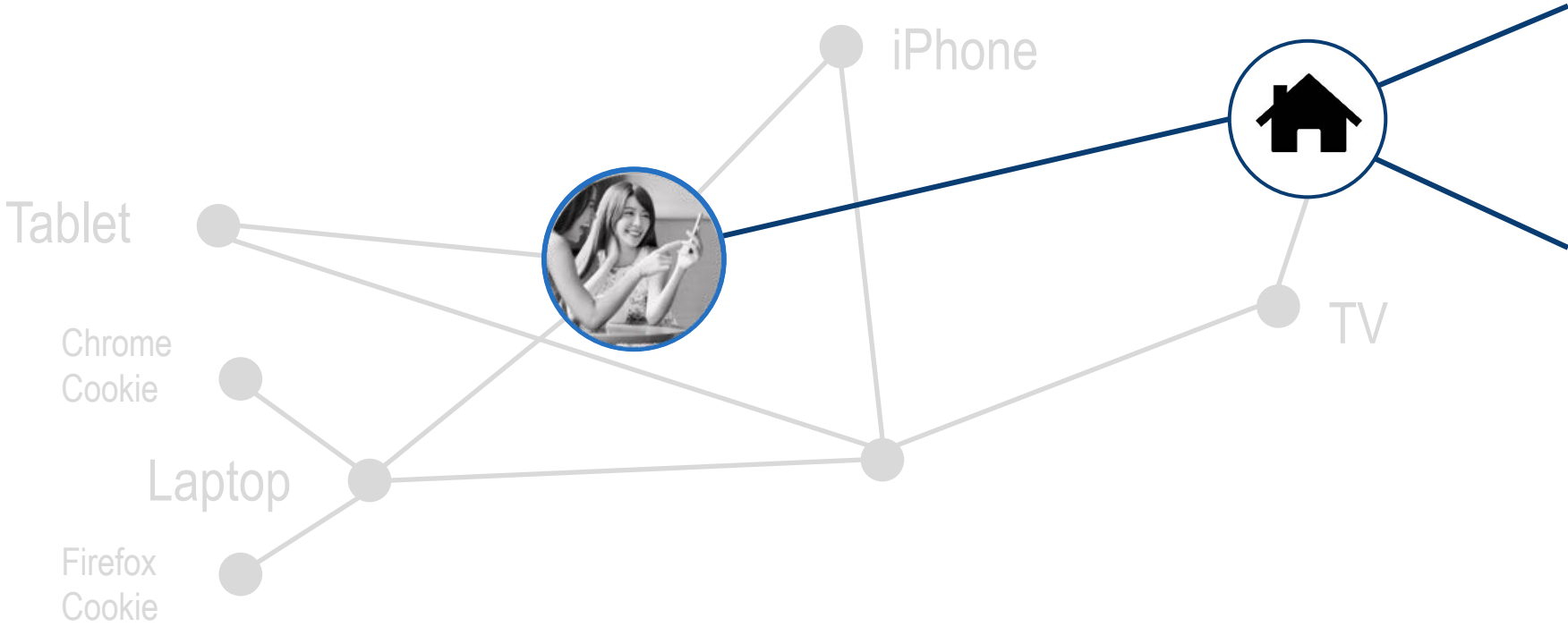
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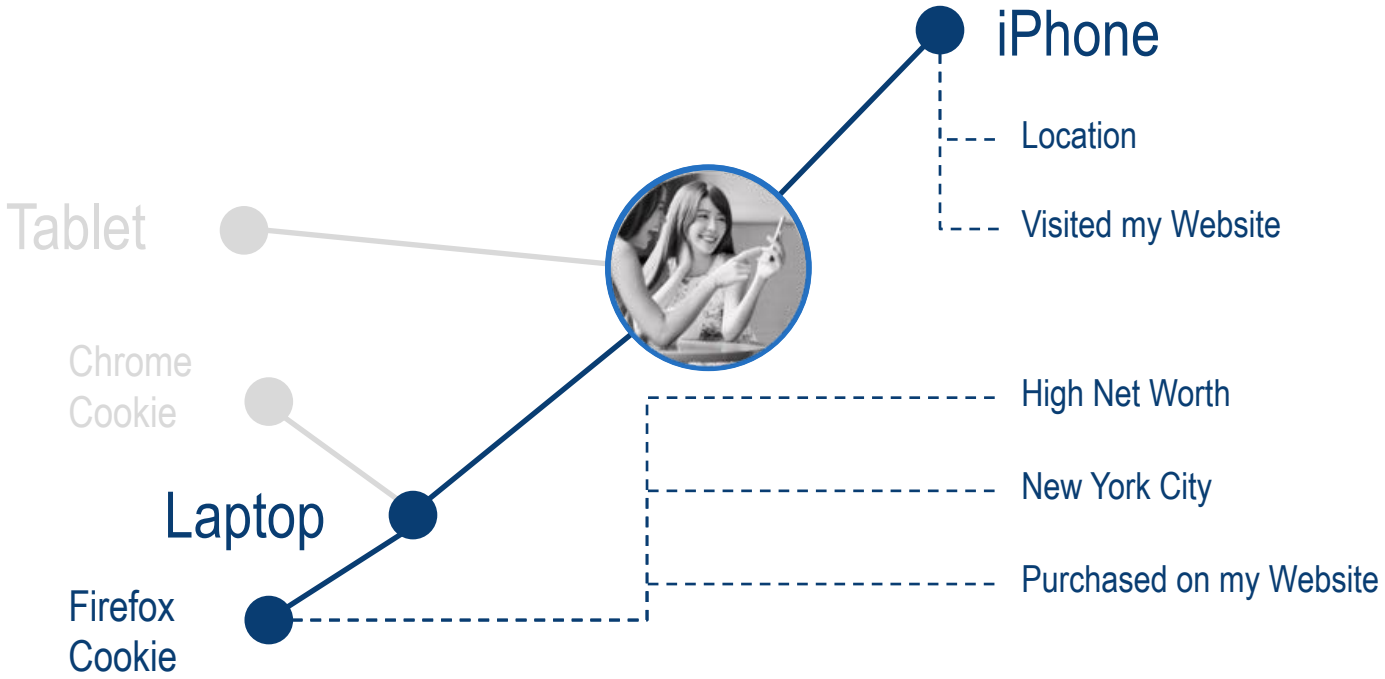
What is a Graph?



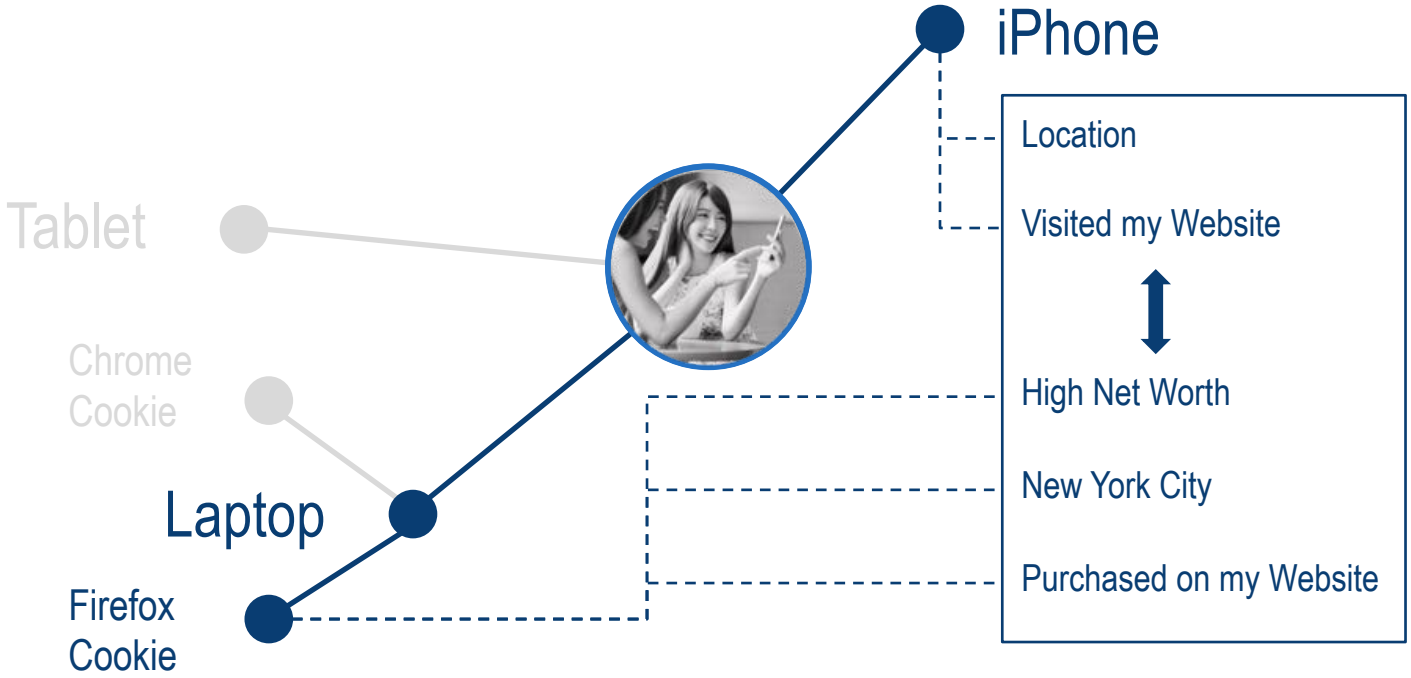
What is a Graph?



Combine Data Sources



Combine Data Sources



Bringing the Graph to TV

TV Data into a digital graph has different requirements



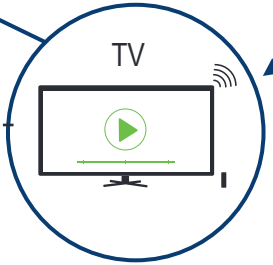


High Net Worth

New York City

Visited my Website

- Lack of identifiers
- Privacy implications
- Based on household-level data



Ad Exposure

Programs Viewed



Enter Programmatic TV (PTV)

TV inventory that is planned, bought and sold on impressions using digital (audience) data and software automation.

Three PTV “Flavors” today

Programmatic Linear

Traditional Broadcast automated through APIs

Audiences purchased through indices



Addressable TV

Household Level targeting of TV and Video on Demand

Allows digital audiences



Connected TV (OTT)

“TV” content on internet connected devices

RTB programmatic channels and direct



What Does PTV Mean for Advertisers?

Measurement & reporting beyond ratings points

Increased automation

Incorporate 1st & 3rd party data into TV





Different Approaches for Each Channel

Extending the Graph to Connected TV





Step 1: Build Target Audience Data across devices

- High Net Worth
- New York City
- Visited my Website



Step 2: Build a household model

Using a household algorithm, device data can be aggregated one layer up



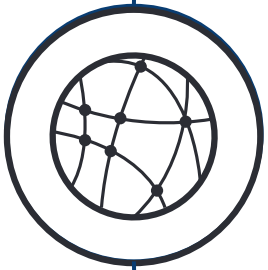
Step 3: Execute your campaign like Programmatic Video

Use most key elements of today's DSPs for planning, campaign management and reporting

Extending the Graph to Addressable









Step 1: Build Target Audience Data across devices

- High Net Worth
- New York City
- Visited my Website

Step 2: Build an audience model

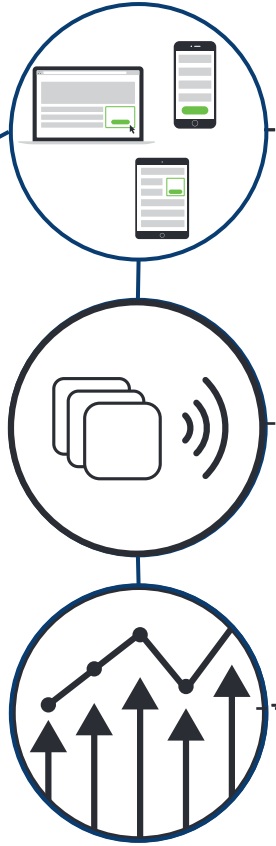
- Privacy issues prevent targeting set top boxes directly
- Modeling can be used to take 1st party / 3rd party data
- "Modeled" Set-top boxes that look like your audience. Can be targeted Directly by the MVPD

Step 3: Execute and Measure Reach and ROI

- Measure reach and frequency and traditional metrics
- **True ROI of TV based on exposure data**

Extending the Graph to Programmatic Linear





Step 1: Build Target Audience Data across devices

- High Net Worth
- New York City
- Visited my Website

Step 2: Connect to an Opt-In Panel

- Collects Panel Based Viewing Data for Ads and Shows
- Bridges Digital Behavior to TV Watching
- Creates indices for Programs, Channels, Times, and Regions

Step 3: Execute a Programmatic TV Plan

- **276%:** New York City, **Walking Dead**, AMC, Sunday @ 9pm
- **150%:** Los Angeles, **NCIS**, CBS, Tuesday @ 7pm
- **Execute via API integrations for granular control**

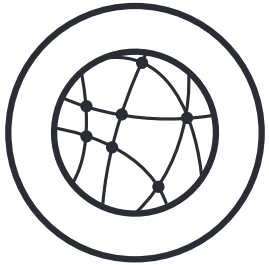


New Approaches to Measurement

Cross Device Enables New KPIs and Attribution Models

Impression Channel

Television
Mobile
Display
Video



Conversion Channel

Web Site
In-App
In-Store
Location

Attribution Models

Linear
Time Decay
First / Last Touch
Weighted Multi-Touch



Activity:

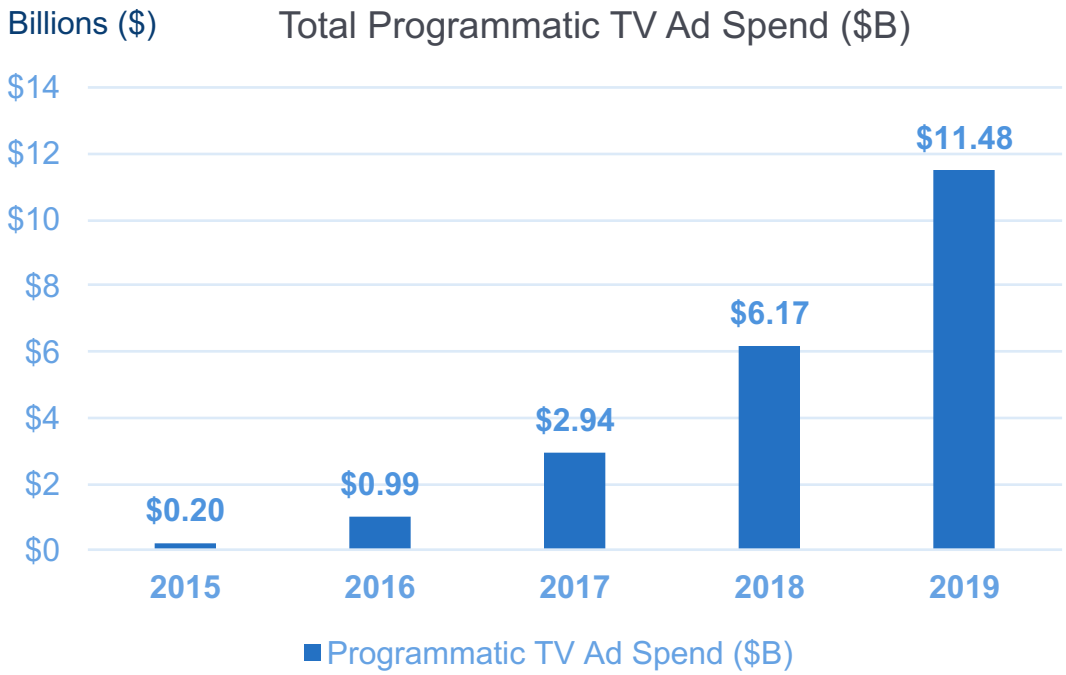
Define you'd use cross-device technology to reach consumers and measure effectiveness in: Auto, CPG, Retail, or Financial Services (pick one)

Thank you!



Programmatic TV market is growing rapidly

Despite the challenges, programmatic TV is projected to grow to over $11B by 2019 accounting for 16% of US TV advertising spend.



Source: Weide, Karsten. International Data Corporation, Aug. 2015: "Programmatic TV Advertising: Bigger than RTB By 2019"