Numerator

WHITEPAPER

Missed Households in an Omnichannel World

Correct Your *Miss-Understanding*

Executive Summary

Marketers can't target what they can't see, yet basing decisions off data that is missing a significant number of buyers is what many marketers are doing today. In an evaluation of 200 of the largest fast moving consumer goods categories, Numerator data shows 159 (80%) categories were missing at least 10 points of household penetration when leveraging legacy panels. 50% were missing 15 points or more of penetration, and most concerning, 20% were missing 20 points or more of penetration.

Introduction

Underlying consumer behaviors explain what drives sales and are the leading indicators of what might happen next. A primary role of a consumer panel is to identify that underlying behavior. That starts with a basic measurement of the number of households buying a category or brand (usually explained by the metric "penetration", defined as the % of U.S. households purchasing the category or brand at least once during the time period).

However, the bottom line is that legacy panels are not providing the right answer to even this most basic question.

Missed Households Findings

Numerator conducted an evaluation of 200 of the largest fast moving consumer goods categories to examine what the differences in panel design (between Numerator's modern OmniPanel vs legacy panel) could mean in terms of capturing consumer behavior. For this study, we focused on annual Household Penetration, as this metric captures the "reach" a category or brand has (as measured by % of U.S. households buying it at least once during the year).

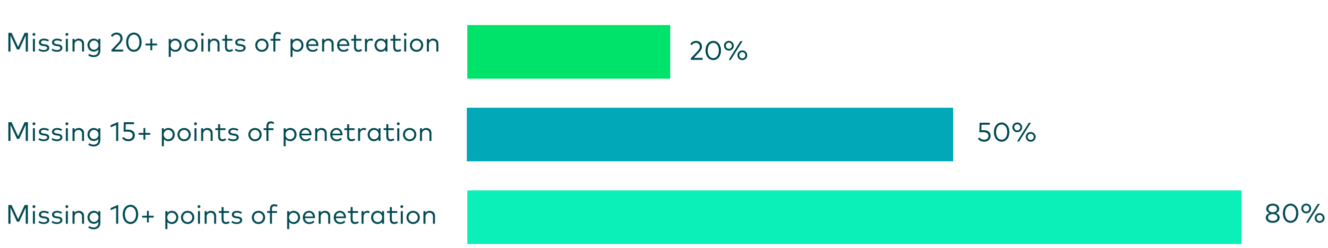
Comparing annual Household Penetration levels between Numerator's OmniPanel vs simulated legacy panel results revealed some significant differences — legacy panels are "missing" or underrepresenting a substantial number of households. In fact, comparing expected penetration levels between legacy panels vs. Numerator showed that, out of the 200 large FMCG categories examined:

- **80%** (159/200) of categories were missing at least 10 points of penetration
- **50%** (100/200) were missing 15 points or more of penetration
- And a disturbing **20%** (40/200) were missing 20 or more points of penetration

To put this into perspective, **one point of penetration is equal to about 1.3 million households.** This means that, for some of these large CPG categories, legacy panels are understating the reach of each of these categories by over 25 million households.

Figure 1

% of Top 200 Largest CPG Categories Missing Significant # of Households



A list of the top 50 categories ranked by penetration gap is shown in Figure 4 below. The entire list of 200 categories can be found in the appendix.

Additional Implications

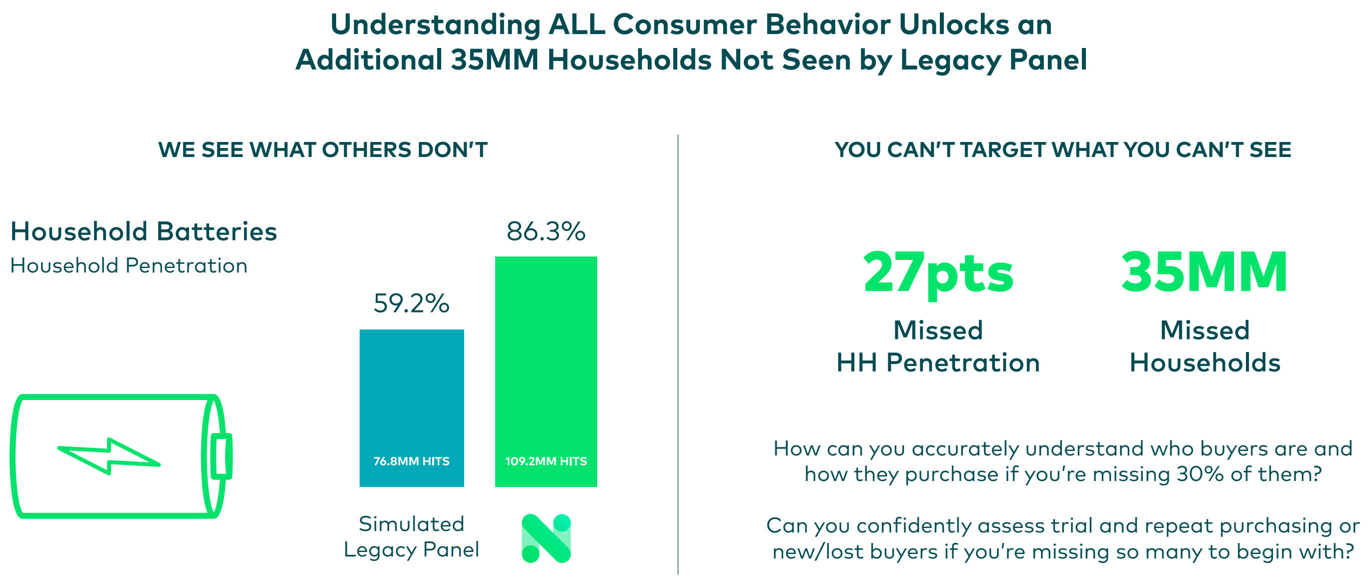
Missing or understating the number of households buying is only part of the problem. If you are missing buyers, you are not just miscounting the number of households. At this point, you need to start questioning the data source and asking "do I really know who my buyers are and/or how to reach them"? And, this leads to other key questions such as:

- Who am I reaching already vs who am I missing (and why)?
- Are these missed buyers lighter buyers, repeat buyers, new buyers?
- To what extent are these missed buyers shopping in a certain channel or characterized by a certain demographic I may be under serving?
- How are my buyers really behaving and how do I get them to do more of something (like buy my brand more often)?

The actions a marketer takes to produce the effective results needed to grow sales depends on having a true understanding of consumers and their behavior.

An example of what the understatement of households buying may mean to a category is shown below for the Household Batteries category (Figure 2). Numerator shows Household Batteries have an annual penetration of 86% (read as 86% of Total U.S. households purchased Household Batteries at least once during the year). In contrast, legacy panel data is estimated to be 59%. This 27-point difference in penetration translates to understating the total number of category buyers by 32 million households.

Figure 2: Household Batteries Example



Source: Numerator Insights, 52 weeks ending 12/31/20, simulated legacy panel universe vs. Numerator OmniPanel

Following this example further, a simple explanation may be that these missing households are sourcing from channels and retailers that are not tracked by legacy panels (such as online purchases) vs Numerator's true Omnichannel Panel. While some of that is true, that does not tell the whole story. In fact, these missing households are scattered across all channels. (Figure 3)

This pattern or result is due in large part to different collection methodology approaches. Legacy panel uses a cumbersome and high burden approach to collect data (panelists have to scan in every item purchased separately). In contrast, Numerator uses a more modern approach that leverages receipt capture via

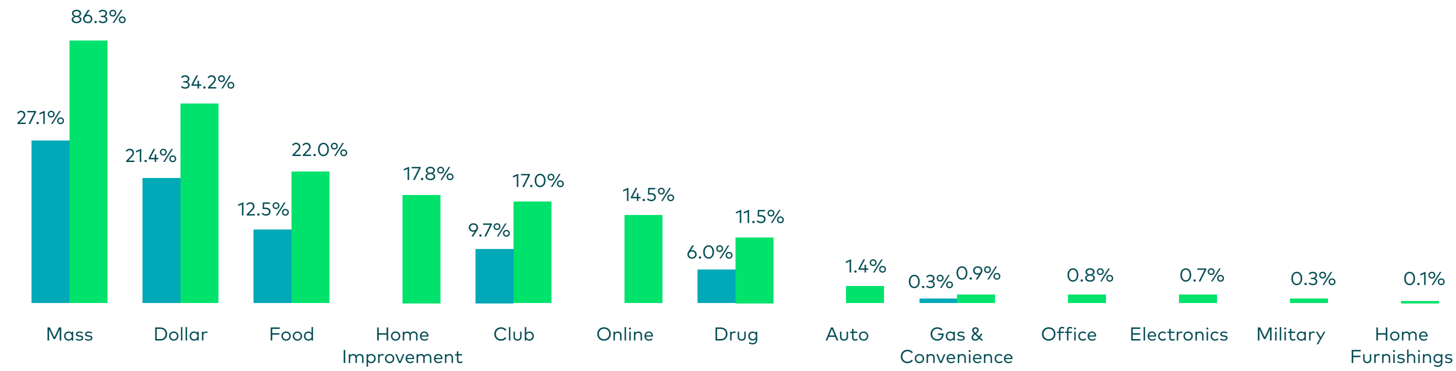
Smartphone technology that people already have at their fingertips plus an automated collection of Amazon and other online retailer's purchase data from the same users.

Figure 3: Household Batteries Example — By Channel Results

Visibility in Core and Additional Channels Enables More Complete Category Understanding

Household Batteries HH Penetration by Channel

Numerator vs. Legacy Panel



Source: Numerator Insights, 52 weeks ending 12/31/20, simulated legacy panel universe vs. Numerator OmniPanel

A key advantage that a more modern approach to data collection delivers is that you capture more trips from panelists. It is critical to pick up more trips as it enhances your ability to identify light or infrequent buyers of a category or brand. This means there is a higher likelihood of observing people buying a category or brand (than what a legacy panel might find) which leads to higher (and more accurate) penetration levels. This is even more important for categories/purchases that are not bought frequently — once or twice a year — where if you miss that purchase your penetration numbers will be incorrect and understated. **Simply put, for some consumers, you only have one shot of catching them buying a category or brand, so you need to do everything you can to capture it.**

In essence, Numerator's approach leads to a panel with a strong foundation. If the foundation of the panel is not built correctly, the credibility of the data is in question.

Summary

Marketers need a line of sight to all consumers to get a full picture of all buyers. It is an essential requirement of a consumer panel to capture all types of buyers to ensure that insights drawn from that panel unlock the right opportunities. It is a fact that Numerator's OmniPanel captures more buyers and more occasions than the legacy panels of the past.

The implications of understating the number of buyers expand beyond just knowing the total reach of a category or brand. They bring into question what that means to the underlying data and the decisions you are trying to make with it.

By missing households, you may be missing:

- Who am I reaching already vs who am I missing (and why)?
- Are these missed buyers lighter buyers, repeat buyers, new buyers?
- To what extent are these missed buyers shopping in a certain channel or characterized by a certain demographic I may be under serving?

A marketer who needs to make significant decisions on how to allocate spending, who to target, and how to assess potential opportunities needs an omnichannel datasource that has a track record of capturing more households and more trips.

Figure 4: Estimated % Missed Households (Penetration Gap) for Top CPG Categories

(50 of the Top 200 largest CPG categories across Grocery, Health & Beauty, Household, Baby and Pet)

	MAJOR CATEGORY	HOUSEHOLD PENETRATION GAP VS LEGACY PANEL
1	Medical Supplies & Equipment	38.8%
2	Brooms, Mops & Brushes	29.2%
3	Hair Removal Tools	28.6%
4	Hair Accessories	27.4%
5	Toothbrushes	27.3%
6	Household Batteries	27.1%
7	Sponges & Scouring Pads	26.7%
8	Indoor/Perimeter Insect Control	26.2%
9	Foot Care	25.3%
10	Trash Bags	25.2%
11	Lip Care	24.6%
12	Body Skin Care	24.3%
13	Bathroom Cleaners	24.0%
14	Food Storage Containers	23.7%
15	Nail Color & Care	22.7%
16	Plastic Wrap & Foil	22.7%
17	Dental Floss & Between Teeth Cleaners	22.5%
18	Christmas & Winter Holiday Candy	22.5%
19	Vinegars	22.4%
20	Eye Makeup	22.0%
21	Styling Products	22.0%
22	Drain & Septic Care	22.0%
23	Valentine Candy	21.9%
24	Instant Action Air Freshener	21.9%
25	Women's Deodorants & Antiperspirants	21.7%
26	External Pain	21.7%

Figure 4: Estimated % Missed Households (Penetration Gap) for Top CPG Categories

(50 of the Top 200 largest CPG categories across Grocery, Health & Beauty, Household, Baby and Pet)

	MAJOR CATEGORY	HOUSEHOLD PENETRATION GAP VS LEGACY PANEL
27	All-Purpose Cleaners	21.6%
28	Vitamin Letters	21.5%
29	Flour & Blends	21.5%
30	Baking Ingredients	21.2%
31	Bleach & Brightening	21.1%
32	Laundry Cleaning Additives	20.8%
33	Men's Deodorants & Antiperspirants	20.7%
34	Face Care	20.7%
35	Allergy Care	20.7%
36	Ketchup	20.6%
37	Cleaning Wipes	20.4%
38	First Aid	20.3%
39	Toiletries (Baby)	20.2%
40	Syrups	20.0%
41	Baby & Toddler Wipes	19.9%
42	Sun Care	19.8%
43	Digestive Health	19.7%
44	Mouthwash	19.6%
45	Pain Relievers	19.5%
46	Face Makeup	19.3%
47	Waste Management (Pet)	19.3%
48	Pet Toys (Cat/Dog)	19.3%
49	Continuous Action Air Freshener	19.3%
50	Hair & Scalp Treatments	19.3%

Appendix

Methodology

For this study, CPG major categories from the Grocery, Health & Beauty, Household, Baby and Pet sectors were ranked based on total sales to identify the top 200 largest categories. Penetration for each category based on an omnichannel view was then compared to a simulated view of the legacy panel universe to calculate an estimated number of points of penetration missing (penetration gap) from the legacy panel environment.

Estimated % Missed Houseolds (Penetration Gap) from Legacy Panels for the Top 200 largest CPG Categories

(Based on Grocery, Health & Beauty, Household, Baby and Pet sectors)

	MAJOR CATEGORY	HOUSEHOLD PENETRATION GAP VS LEGACY PANEL
1	Medical Supplies & Equipment	38.8%
2	Brooms, Mops & Brushes	29.2%
3	Hair Removal Tools	28.6%
4	Hair Accessories	27.4%
5	Toothbrushes	27.3%
6	Household Batteries	27.1%
7	Sponges & Scouring Pads	26.7%
8	Indoor/Perimeter Insect Control	26.2%
9	Foot Care	25.3%
10	Trash Bags	25.2%
11	Lip Care	24.6%
12	Body Skin Care	24.3%
13	Bathroom Cleaners	24.0%
14	Food Storage Containers	23.7%

Estimated % Missed Houseolds (Penetration Gap) from Legacy Panels for the Top 200 largest CPG Categories

(Based on Grocery, Health & Beauty, Household, Baby and Pet sectors)

	MAJOR CATEGORY	HOUSEHOLD PENETRATION GAP VS LEGACY PANEL
15	Nail Color & Care	22.7%
16	Plastic Wrap & Foil	22.7%
17	Dental Floss & Between Teeth Cleaners	22.5%
18	Christmas & Winter Holiday Candy	22.5%
19	Vinegars	22.4%
20	Eye Makeup	22.0%
21	Styling Products	22.0%
22	Drain & Septic Care	22.0%
23	Valentine Candy	21.9%
24	Instant Action Air Freshener	21.9%
25	Women's Deodorants & Antiperspirants	21.7%
26	External Pain	21.7%
27	All-Purpose Cleaners	21.6%
28	Vitamin Letters	21.5%
29	Flour & Blends	21.5%
30	Baking Ingredients	21.2%
31	Bleach & Brightening	21.1%
32	Laundry Cleaning Additives	20.8%
33	Men's Deodorants & Antiperspirants	20.7%
34	Face Care	20.7%
35	Allergy Care	20.7%
36	Ketchup	20.6%
37	Cleaning Wipes	20.4%
38	First Aid	20.3%
39	Toiletries (Baby)	20.2%
40	Syrups	20.0%

Estimated % Missed Houseolds (Penetration Gap) from Legacy Panels for the Top 200 largest CPG Categories

(Based on Grocery, Health & Beauty, Household, Baby and Pet sectors)

	MAJOR CATEGORY	HOUSEHOLD PENETRATION GAP VS LEGACY PANEL
41	Baby & Toddler Wipes	19.9%
42	Sun Care	19.8%
43	Digestive Health	19.7%
44	Mouthwash	19.6%
45	Pain Relievers	19.5%
46	Face Makeup	19.3%
47	Waste Management (Pet)	19.3%
48	Pet Toys (Cat/Dog)	19.3%
49	Continuous Action Air Freshener	19.3%
50	Hair & Scalp Treatments	19.3%
51	Multivitamins	19.2%
52	Herbs, Spices & Seasonings-Single	19.0%
53	Braces, Slings, Splints, & Support	18.9%
54	Quick Clean	18.8%
55	Rice	18.8%
56	Honey	18.8%
57	Canned & Powdered Milk	18.6%
58	In-Store Bakery Sweet Goods	18.6%
59	Halloween Candy	18.6%
60	Frozen Desserts	18.3%
61	Health & Wellness (Pet)	18.1%
62	Easter Candy	18.1%
63	Sleep Aids	18.1%
64	Fabric Softener	18.1%
65	Side Dishes-Shelf Stable	18.0%
66	Drinks & Mixes	18.0%

Estimated % Missed Houseolds (Penetration Gap) from Legacy Panels for the Top 200 largest CPG Categories

(Based on Grocery, Health & Beauty, Household, Baby and Pet sectors)

	MAJOR CATEGORY	HOUSEHOLD PENETRATION GAP VS LEGACY PANEL
67	Food Storage Bags	18.0%
68	Dishwasher Detergent	18.0%
69	Sides	17.9%
70	Frozen Bakery	17.9%
71	Facial Tissue	17.8%
72	Baking Chips & Bars	17.7%
73	Cold, Cough & Flu	17.7%
74	Dessert Snacks	17.7%
75	Donuts	17.7%
76	Pies, Cobblers, Creams & Flans	17.6%
77	Shampoo and Conditioners	17.6%
78	Pickles	17.5%
79	Frozen Seafood	17.1%
80	Napkins	17.1%
81	Dish Detergent	17.0%
82	Toaster Pastries	16.8%
83	Meat Snacks	16.8%
84	Pretzels	16.7%
85	Dried Fruit & Fruit Snacks	16.7%
86	Hand Soaps & Sanitizers	16.4%
87	Vacuums	16.4%
88	Frozen Sandwiches	16.4%
89	Frozen Appetizers	16.3%
90	Variety Packs	16.1%
91	Hair Color	16.1%
92	Mayonnaise & Mayonnaise Dressings	16.1%

Estimated % Missed Houseolds (Penetration Gap) from Legacy Panels for the Top 200 largest CPG Categories

(Based on Grocery, Health & Beauty, Household, Baby and Pet sectors)

	MAJOR CATEGORY	HOUSEHOLD PENETRATION GAP VS LEGACY PANEL
93	Drops and Lubricants	15.7%
94	Nuts & Seeds (Produce)	15.7%
95	Shrimp & Prawns	15.7%
96	Stocks & Broths	15.7%
97	Pads	15.6%
98	Collars & Leads	15.3%
99	Flushable Wipes	15.3%
100	Flowers & Indoor Plants	15.3%
101	Canned Olives	14.9%
102	Toothpaste	14.9%
103	Refreshers (Candy)	14.9%
104	Herbs, Spices & Seasonings-Blends	14.6%
105	Spirits	14.5%
106	Refrigerated Dough	14.4%
107	Canned Fruit	14.4%
108	Cleansers	14.3%
109	Wine	14.3%
110	Frozen Potato Snacks	14.2%
111	Puffed Snacks	14.2%
112	Popcorn	14.2%
113	Hair Fashion Appliances	14.1%
114	Cold Cuts-Deli	14.0%
115	Frozen Pizza	13.9%
116	Frozen Breakfast Food	13.9%
117	Hot Dogs	13.8%
118	Frozen Fruit	13.8%

Estimated % Missed Houseolds (Penetration Gap) from Legacy Panels for the Top 200 largest CPG Categories

(Based on Grocery, Health & Beauty, Household, Baby and Pet sectors)

	MAJOR CATEGORY	HOUSEHOLD PENETRATION GAP VS LEGACY PANEL
119	Disposable Diapers & Pants	13.8%
120	Herbal Supplements	13.7%
121	Meal Combo-Kids	13.6%
122	Hair, Skin & Nails	13.6%
123	Nutrition and Wholesome Bars	13.5%
124	Cakes, Cupcakes & Muffins	13.4%
125	Weight Loss Product	13.4%
126	Frozen Vegetables	13.3%
127	Sugar, Sugar Substitutes & Sweeteners	13.2%
128	Fish	13.2%
129	Cat Supplies	13.0%
130	Dog Food & Treats	12.7%
131	Disposable Tableware	12.6%
132	Paper Towels	12.5%
133	Laundry Detergent	12.5%
134	Frozen Meat	12.3%
135	Canned Meat & Seafood	12.3%
136	Wild Bird Food & Treats	12.3%
137	Snack Cakes	12.2%
138	Heart	12.2%
139	Beer	12.2%
140	Cat Food & Treats	12.1%
141	Jam, Jelly, Preserves, Marmalade, Fruit & Nut Butters	12.1%
142	Sports & Energy Drinks	12.0%
143	Cocktails & Mixers	12.0%

Estimated % Missed Houseolds (Penetration Gap) from Legacy Panels for the Top 200 largest CPG Categories

(Based on Grocery, Health & Beauty, Household, Baby and Pet sectors)

	MAJOR CATEGORY	HOUSEHOLD PENETRATION GAP VS LEGACY PANEL
144	Probiotics	11.9%
145	Bacon	11.7%
146	Tampons	11.4%
147	Cheese-Deli	11.4%
148	Flea & Tick (Pet)	11.4%
149	Oil & Shortening	11.1%
150	Pork	11.0%
151	Frozen Dinners & Meals	11.0%
152	Salad Dressings & Toppings	10.5%
153	Massage Appliances	10.4%
154	Snack Seeds, Nuts & Trail Mixes (Snack)	10.3%
155	Performance Powders	10.3%
156	Tea	10.2%
157	Incontinence	10.2%
158	Tortillas, Pitas, Taco Shells & Wraps	10.0%
159	Grains, Rice & Pasta Dishes-Shelf Stable	10.0%
160	Beans	9.9%
161	Baking Mixes	9.7%
162	Baby Food	9.6%
163	Pasta	9.5%
164	Performance Shakes	8.8%
165	Meals	8.7%
166	Pet Containment (Dog/Cat)	8.4%
167	Coffee	8.4%
168	Sausage	8.3%
169	Nutrition Drinks & Shakes	7.8%

Estimated % Missed Houseolds (Penetration Gap) from Legacy Panels for the Top 200 largest CPG Categories

(Based on Grocery, Health & Beauty, Household, Baby and Pet sectors)

	MAJOR CATEGORY	HOUSEHOLD PENETRATION GAP VS LEGACY PANEL
170	Yogurt & Yogurt Drinks	7.6%
171	Dips	7.6%
172	Cold Cuts-Mainstream	7.5%
173	Canned Vegetables	7.4%
174	Fish Supplies	6.9%
175	Packaged Soups-Shelf Stable	6.8%
176	Bath Tissue	6.7%
177	Salad Mixes & Salad Kits	6.4%
178	Crab	6.4%
179	Diabetes	6.1%
180	Butter & Margarine	5.7%
181	Poultry	5.2%
182	Packaged Cookies	4.7%
183	Formula	4.5%
184	Beef	4.1%
185	Crackers	4.0%
186	Ice Cream & Novelties	3.8%
187	Cleaners and Steamers	3.7%
188	Breakfast Cereal	3.7%
189	Soft Drinks	3.2%
190	Sauces	3.0%
191	Juices	2.9%
192	Water	2.6%
193	Eggs	2.4%
194	Non-Seasonal Candy	1.5%
195	Chips	1.0%

Estimated % Missed Houseolds (Penetration Gap) from Legacy Panels for the Top 200 largest CPG Categories

(Based on Grocery, Health & Beauty, Household, Baby and Pet sectors)

	MAJOR CATEGORY	HOUSEHOLD PENETRATION GAP VS LEGACY PANEL
196	Cheese	1.0%
197	Bread	0.6%
198	Fruits	0.5%
199	Vegetables	0.5%
200	Milk, Cream, & Milk Substitutes	0.4%

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