Hillstrom's Zip Code Forensics: An Innovative Way To Improve Multichannel Marketing Productivity Kevin Hillstrom, President, MineThatData October 28, 2008

Introduction

We are fifteen years into the e-commerce era. And while we've had to change how we market to customers, we haven't made significant strides in understanding how customers behave. We've been told that customers are "multichannel", meaning that customers use catalogs and e-mail campaigns and websites and social media applications and television and radio and newspapers to make purchase decisions. Marketing best practices suggest that we have to do all of these things to reach customers.

Multichannel Forensics projects suggest otherwise. I consistently observe that customers have unique preferences, and ultimately gravitate toward their favorite channel. It may be true that direct marketers have to execute well across numerous micro-channels in order to be successful. But it appears equally true that the majority of customers exhibit micro-channel preferences, and are unlikely to participate across numerous micro-channels.

Our next step is to understand what drives micro-channel preference, a process that is unique and customized to each business. The factors that drive micro-channel performance for Apple are different than the factors that drive micro-channel performance at L.L. Bean. Each brand utilizes different analytics tools to understand the behaviors that are unique to their brand.

There are behaviors, however, that appear to be consistent across many direct marketers. Geography, for instance, appears to play a significant role in how customers behave.

If you are a cataloger in New England, you know that your New England based customers love shopping from your monthly mailings. You live near customers who shop from numerous catalogs. This is your environment, and you feel confident that the rest of the world acts in a manner congruent with how you act.

Conversely, if you are a marketer in the Bay Area, you likely utilize tools like Twitter and Facebook to build community with your customers. You have six hundred and twenty followers on your favorite micro-blogging platform, heck, it seems like everybody is using this type of communications platform! Who the heck still shops from catalogs, when you can shop an e-commerce brand recommended on a microblogging site?

The reality is that each of these customers are correct! Within their geography, customers behave in a consistent manner. The customer in San Jose might be a

technology maven, while the customer in New England might prefer reading a catalog while sitting next to the fireplace.

What is needed is an easy-to-implement tool that accounts for differences in regional customer behavior. The tool could be even better if it incorporated the customer behavior across numerous brands, not just the behavior within one brand. The tool should differentiate regions that are high-spending, and illustrate regions that are not likely to host customers who spend a lot with direct marketing brands.

It is easy for applications to segment customers based on past behavior. It is more important that the application have the potential to forecast future performance. In other words, we should be able to sub-segment customers who live in various geographical regions, isolating those who have potential for better performance. Obviously, this cannot be accomplished for every brand, but it should be feasible for many brands.

This is what Hillstrom's Zip Code Forensics is all about. This segmentation tool is designed to help direct marketers better understand customer behavior, and to sub-segment marginally performing customer segments in order to find the customers most likely to respond, based on geographic differences in customer behavior.

The Segments

Hillstrom's Zip Code Forensics is comprised of six unique segments, designed to highlight differences in spending potential and channel preference. Let's explore each of the segments.

Catalog Crazies

About thirteen hundred zip codes are classified as "Catalog Crazies". These are zip codes with high-spending customers who prefer to place orders over the telephone. Customers who prefer to place orders over the telephone are among the most responsive customers for catalog mailings. Customers in these zip codes spend 1.96 times as much as do customers in an average zip code, per capita.

Where are most of the Catalog Crazies? The biggest concentration of Catalog Crazies is in New England.



Catalog Crazies are the darkest orange zip codes in this image. Vermont, New Hampshire, Cape Code, and much of rural New England are Catalog Crazies. Not surprisingly, New England is the home to many of America's greatest Catalog brands.

For catalogers, these are the absolute best zip codes to target. Many catalogers mail customers who haven't purchased in three, four or five years or more. These segments typically perform around or below breakeven. By targeting the customers who live in these zip codes, performance can improve, at times shifting from unprofitable to profitable performance.

Catalog Crazies can also be found in Mountain States.



This is a map of Colorado. Take a look at the Western half of the state, where many Catalog Crazies live. In Mountain States, away from urban areas (like Denver), shopping options are limited. These are also catalog hotbeds.

Online Bliss

The second best performing zip code segment is called "Online Bliss". These are highly productive zip codes comprised of customers who prefer to shop via e-commerce. This doesn't mean these segments are not likely to shop from catalogs --- in fact, catalogs may be responsible for some of the online orders.

By and large, these are productive zip codes that are moving into the future. These customers embrace e-commerce. E-mail marketing, paid search, affiliate marketing, shopping comparison sites, and social media are represented in these zip codes.

Where do we find Online Bliss segments? Take a look at this map.



This is the Dallas / Ft. Worth market. The darkest green segments are in affluent suburbs. This is a recurrent theme across the United States. Online Bliss segments are consistently found in suburban and exurban zip codes outside of the largest cities in the United States.

The prior map of Colorado also illustrates a heavy concentration of Online Bliss, in the suburban and exurban areas outside of Denver. Online Bliss zip codes spend 1.75 times as much as do customers in an average zip code, per capita.

Most direct marketers, when dealing with unproductive segments, will select Catalog Crazies and Online Bliss zip codes from the unproductive segment.

Catalog Fans And Online Spend

The next two segments perform just below the performance of an average zip code, on a per capita basis. Catalog Fans prefer to shop over the telephone, making them candidates for catalog marketing. Online Spend prefer to shop via e-commerce, making these zip codes ideal candidates for online marketing initiatives.

This map illustrates western Montana, an area that loves catalog marketing, but is not a high-spending region.



Western Montana does not have the retail shopping opportunities that folks in, say, Manhattan, tend to have. These customers enjoy receiving catalogs, and spend an average amount of money.

Conversely, here's a map that represents a high number of Online Spend zip codes in suburban and exurban Minneapolis / St. Paul.



Northeast of St. Paul, and west of Minneapolis we find a large number of Online Spend zip codes. These are customers who enjoy e-commerce, and spend at about average

levels. In fact, Catalog Fans and Online Spend zip codes spend about five percent less than the average zip code.

Catalog Preference, Online Preference

The vast majority of zip codes in the United States are not highly responsive to direct marketing. Catalog Preference and Online Preference zip codes only spend about one-third as much as the average zip code in the United States, per capita.

There are many regions of the United States where we find generally unproductive zip codes.



This is North Dakota. Almost all zip codes in North Dakota are in the Catalog Preference categorization, with some zip codes classified as Online Preference, especially in the southeast corner of the state.

On average, these are the zip codes that the Direct Marketer will avoid. Though these zips comprise the majority of zip codes in the United States, they do not comprise the majority of sales in the United States.

We featured a rural area in the prior map. Urban areas are frequently classified as Catalog Preference or Online Preference. Take a look at Detroit.



Urban Detroit is nearly all Catalog Preference. As one moves out to the north and west, we see Online Spend, and then we move even further out from the center of the city, finding Catalog Fans. This is a trend that repeats across many urban areas.

Take a look at Cleveland, where we see similar trends.



Outside of Cleveland, we actually find multichannel territory, don't we? There is an even mix of good catalog and good online zip codes.

Overall Trends

The following series of maps illustrate overall performance by region. Let's start with the Northeast United States.



As you can easily see, direct marketing works really well from Washington, DC through New England. Rural areas of the Midwest are much less responsive, and are heavily skewed toward catalog preference.

Next, we review the Southeast United States.



The Southeast United States is not a direct marketing hotbed. There are responsive areas, along the coasts of Florida, outside of Atlanta and to the Northeast of Atlanta, Raleigh, Charlotte, south of Nashville, and west of Austin / San Antonio.



Let's see what the Great Plains and Upper Midwest have to show us.

There are productive areas outside of large cities in the Midwest. Northern Wisconsin and Northeast Minnesota have zips that perform well for catalog mailings. By and large, the Great Plains are not responsive to direct marketing. Notice Wyoming and Colorado, mountain states that perform exceptionally well.

Next up is the Southwest United States.



Rocky Mountain States perform very well. There are also highly productive areas in Arizona and New Mexico, and east of Salt Lake City. California is a very productive state, with outstanding zip codes near San Diego and San Francisco. Notice the e-commerce preference in the Bay Area, and east along I-80 to Reno. Also notice how much of California (and Western Nevada) are catalog hotbeds.

Let's review the Pacific Northwest.



Rural areas of Washington and Oregon prefer catalog marketing, ordering more frequently over the telephone. Urban areas, near Seattle, Portland and Boise exhibit a preference for e-commerce.



Not surprisingly, Alaska is a good state for direct marketing.

And Hawaii, outside of Honolulu and areas of the Big Island, have potential as well.



How Do I Use This Segmentation Scheme?

Direct Marketers are able to overlay the zip code information against marginally performing customer segments. Let's assume that a direct marketer has 100,000 lapsed customers that perform at or below breakeven. The direct marketer overlays Hillstrom's Zip Code Forensics, and markets only to the customers who are in Catalog Crazies or Online Bliss segments. Here's what might be expected, based on tests conducted in the development of the segmentation strategy. In this case, we select Catalog Crazies and Online Bliss segments out of the total list.

	Household Level		Total Results	
	Total List	Top 2 Sg.	Total List	Top 2 Sg.
Quantity	100,000	27,000	100,000	27,000
Demand	\$2.00	\$2.26	\$200,000	\$61,074
Net Sales	\$1.60	\$1.81	\$160,000	\$48,859
Gross Margin	\$0.88	\$1.00	\$88,000	\$26,873
Less Marketing Exp.	\$0.75	\$0.75	\$75,000	\$20,250
Less Pick/Pack/Ship	\$0.18	\$0.21	\$18,400	\$5,619
Variable Profit	(\$0.05)	\$0.04	(\$5,400)	\$1,004

Some folks will get better results, some will get worse results. The potential exists to improve profitability, and to eliminate expense and <u>not use as much paper</u>. When eco-friendly organizations question your practices, you can point to Hillstrom's Zip Code Forensics as one tool that is used to help minimize direct marketing activities.

How Much Does It Cost?

There are a couple of ways to use Hillstrom's Zip Code Forensics.

Method #1 = Create Your Own Zip Code Model. You can build your own model for free, if you so desire. Tally your sales by zip code, divide it by the population in that zip code (data is freely available from the Census Bureau), and you have your own customized zip model for your brand. Your model should work!

Hillstrom's Zip Code Forensics goes beyond this level of analysis by incorporating sales weighting algorithms, sales smoothing algorithms in low population zip codes, and channel weighting algorithms that determine which channel the zip code is predisposed to purchase from.

Method #2 = Contribute Your Data To Hillstrom's Zip Code Forensics. By adding your anonymous purchase channel data for the past twelve months (mail, phone, web, retail, etc.) at a zip code level, you are able to leverage the model at a low cost. You benefit from the data contributed by other participants --- they benefit because your data has been added to the model, making the overall model stronger. <u>The cost to</u> <u>participate is free. Free!!!</u> You will receive up to four updates per year, when the model

is refreshed with the information added by other participants and overall algorithm improvements, as long as I continue to offer the product for purchase.

Method #3 = Fee-Based License. Should you not wish to contribute your anonymous zip code data, you can purchase Hillstrom's Zip Code Forensics for a cost of \$5,000 per year.

Obviously, there is a significant incentive to contributing data to Hillstrom's Zip Code Forensics. The goal is for the direct marketing community to collectively benefit from combined data. Combined data enables a more reliable model for direct marketers.

How Is The Model Created?

Though the actual algorithm is proprietary, most of the information used in the model can be freely shared here.

- Sales are tabulated at a zip code level, by sales channel (mail, phone, web, retail, etc.).
- Sales are tabulated for the past twelve months.
- Census data, including population by zip code, are matched to the sales data from each company.
- Sales from brands with more than \$100,000,000 in annual sales are significantly adjusted so that the brand does not disproportionately contribute to model results.
- Adjustments are made to the data at a 3-digit zip code level, to account for noisy information and outliers.
- Weighting algorithms are created for mail/phone sales, web sales, and retail sales, identifying the zip codes that are pre-disposed to any one sales channel.
- Weighting algorithms are created for sales per capita in each zip code, determining the zip codes that yield the greatest sales per person.
- Channel algorithms and sales algorithms are merged, yielding the six segments that make up Hillstrom's Zip Code Forensics.
- The segments were back-tested against actual customer data, to make sure that the model could accurately select zip codes that would outperform marginal zip codes. In all back-tests, the best zip codes outperformed marginal zip codes.
- Back-tests also made sure that catalog-based segments were skewed toward future performance via the telephone channel, while online-based segments were skewed toward online performance. The back-tests validated that this behavior is consistent.
- A separate algorithm ranks sales and grades each zip code on the basis of "A", "B", "C", "D", and "F", allowing each contributing brand to have their own personalized zip code model, unique to their brand.

I Want To Be Part Of Hillstrom's Zip Code Forensics!!

In order to participate in Hillstrom's Zip Code Forensics, you only need to do the following.

- 1. Choose the Free or \$5,000 option. If necessary, I will invoice you for the appropriate amount.
- 2. Send anonymous zip code level sales data to me. Each row in your spreadsheet represents a zip code. Each column represents annual sales for each physical channel you manage (mail, phone, web, retail, etc.).
- 3. I will also adjust the existing Zip Code Forensics model, incorporating your information (if you chose the free option).
- 4. You will receive a file that has two columns, with one row per zip code. Column A represents the zip code, column B represents Hillstrom's Zip Code Forensics segmentation assignment.

Appendix: Metropolitan Area Maps



Seattle / Tacoma

Portland, OR



San Francisco / Oakland / San Jose



Los Angeles / San Diego



Phoenix / Tucson



Salt Lake City



Denver



Dallas / Ft. Worth



Austin / San Antonio



Houston



New Orleans



Kansas City



St. Louis



Minneapolis / St. Paul



Milwaukee / Madison



Chicago



Detroit



Indianapolis



Nashville



Atlanta



Cincinnati



Cleveland



Pittsburgh



Buffalo



Boston



New York City And Long Island



Philadelphia



Baltimore And Washington, DC



Raleigh / Charlotte



Tampa / Orlando



Miami / Ft. Lauderdale

