2011-2012 Member Organizations

- Beck Center for the Arts
- Cleveland Botanical Garden
- Cleveland Museum of Art
- The Cleveland Orchestra
- The Cleveland Play House
- DANCECleveland
- Great Lakes Science Center
- Great Lakes Theater
- The Music Settlement
- PlayhouseSquare
A word about predictive models

What they are and how they’re used

- A model is a statistically derived equation
- A model is used strategically and tactically
  - Gain insight about your buyers, customers, and prospects
  - Select and target your best prospect households

Types of models

- Market models
  - What characteristics distinguish your customers from other households in the market?
  - Provides
    - Demographic and lifestyle insight
    - A way to target households without arts buying history
- Cross sell models
  - Based on buying behavior; think Amazon or NetFlix
  - Provides
    - Behavioral insight
    - A way to target known arts and culture buyers more effectively
- Behavior trumps demographics
CMD data overview
Data sources

Arts and culture buying

- Household data
  - 1.04 million accounts contributed by CMD participants.
  - Data standardized, cleaned, processed through NCOA.*
  - Yields 580k promotable households.

- Transaction data
  - 3.0 million records representing $480 million in purchasing.
  - Most complete data from 2004 and later.

Data from Experian

- Experian is one of the largest data compilers in the U.S.
- Random market sample of 25k drawn from Cleveland-Elyria-Mentor OH CBSA
  - Cuyahoga, Lake, Lorain, Medina, and Geauga counties
  - Extensive data set of demographic, lifestyle, and direct response buying variables appended to sample.
- 61k CMD buyers over the past two seasons appended with a similar set of appended demographic and other variables.

*National Change of Address
Analytical focus

Time frame

- 2004 through 2010
  - 369k promotable households
  - 1.25 million transactions worth $195 million

Purchase types

- Classes: 7.9k households (HH)
- Memberships: 71.0k HH
- Single tickets: 309.4k HH
- Subscriptions: 35.4k HH
- Visitation: 38.9k HH

“Data leakage” is about 5% but limited visitation data is collected.

Purchasing and geography

- Purchase scope
  - Purchase types listed
  - Excludes companies, group sales, comps, donations, special fundraising events, parking, unidentified walk-ups.

- Geography
  - Market models: Cleveland-Elyria-Mentor OH CBSA (5 counties)
  - Cross sell models and lifetime value: Northeast Ohio (13 counties)
Geographic focus

- **NeOH**
  - 303,163 households (82.2%)
  - $178.6 million

- **Out of Area**
  - 65,737 households (17.8%)
  - $16.1 million

- **Primary out of area markets are regional including:**
  - Sandusky
  - Columbus
  - New Philadelphia
  - Pittsburgh
  - Toledo

11/15/2011
Top out-of-area markets

- 40.2% of the $16.1 million out-of-area revenue comes from the top 10 markets
- The top 10 markets are primarily regional markets
- Remainder spread across many other markets

<table>
<thead>
<tr>
<th>Out of Area Market</th>
<th>HHs</th>
<th>% HHs</th>
<th>Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandusky, OH Metropolitan Statistical Area</td>
<td>3,281</td>
<td>5.0%</td>
<td>$1,602,414</td>
</tr>
<tr>
<td>Columbus, OH Metropolitan Statistical Area</td>
<td>4,981</td>
<td>7.6%</td>
<td>$1,036,385</td>
</tr>
<tr>
<td>New Philadelphia-Dover, OH Micropolitan Statistical Area</td>
<td>1,732</td>
<td>2.6%</td>
<td>$592,670</td>
</tr>
<tr>
<td>Pittsburgh, PA Metropolitan Statistical Area</td>
<td>2,712</td>
<td>4.1%</td>
<td>$519,251</td>
</tr>
<tr>
<td>Toledo, OH Metropolitan Statistical Area</td>
<td>1,958</td>
<td>3.0%</td>
<td>$505,610</td>
</tr>
<tr>
<td>Norwalk, OH Micropolitan Statistical Area</td>
<td>1,428</td>
<td>2.2%</td>
<td>$490,865</td>
</tr>
<tr>
<td>New York-Newark-Edison, NY-NJ-PA Metropolitan Statistical Area</td>
<td>2,037</td>
<td>3.1%</td>
<td>$460,613</td>
</tr>
<tr>
<td>Chicago-Naperville-Joliet, IL-IN-WI Metropolitan Statistical Area</td>
<td>2,017</td>
<td>3.1%</td>
<td>$429,461</td>
</tr>
<tr>
<td>Mansfield, OH Metropolitan Statistical Area</td>
<td>1,431</td>
<td>2.2%</td>
<td>$410,879</td>
</tr>
<tr>
<td>Erie, PA Metropolitan Statistical Area</td>
<td>1,753</td>
<td>2.7%</td>
<td>$402,259</td>
</tr>
</tbody>
</table>
Northeast Ohio market

Buyer concentration and key trends
Northeast Ohio buyer concentration

- Highly concentrated but less than you might expect
- High degree of organizational cross over
- Active arts and culture buyers are shared, not owned

<table>
<thead>
<tr>
<th>Number of Purchases by HH over 7 Years</th>
<th>Number Promotable Households</th>
<th>% of Promotable Households</th>
<th>$ Purchase</th>
<th>% of $ Purchase</th>
<th>Households with 2+ Orgs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>140,618</td>
<td>46.4%</td>
<td>$17,006,253</td>
<td>9.5%</td>
<td>0.0%</td>
</tr>
<tr>
<td>2</td>
<td>56,227</td>
<td>18.5%</td>
<td>$13,800,401</td>
<td>7.7%</td>
<td>23.5%</td>
</tr>
<tr>
<td>3 to 5</td>
<td>57,541</td>
<td>19.0%</td>
<td>$27,887,307</td>
<td>15.6%</td>
<td>43.6%</td>
</tr>
<tr>
<td>6 to 10</td>
<td>26,503</td>
<td>8.7%</td>
<td>$29,060,134</td>
<td>16.3%</td>
<td>64.2%</td>
</tr>
<tr>
<td>11 or more</td>
<td>22,274</td>
<td>7.3%</td>
<td>$90,852,344</td>
<td>50.9%</td>
<td>82.8%</td>
</tr>
<tr>
<td>Total</td>
<td>303,163</td>
<td>100.0%</td>
<td>$178,606,440</td>
<td>100.0%</td>
<td>24.3%</td>
</tr>
</tbody>
</table>
Northwest Ohio
Geographic concentration: Top 15 ZIPS

<table>
<thead>
<tr>
<th>ZIP</th>
<th>Community</th>
<th>Total HH</th>
<th>Buying HH (7-Yr)</th>
<th>% Penetration</th>
<th>Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>44122</td>
<td>Beachwood/Shaker Heights</td>
<td>12,923</td>
<td>8,452</td>
<td>65.4%</td>
<td>$12,725,621</td>
</tr>
<tr>
<td>44124</td>
<td>Lyndhurst/Mayfield Heights/Pepper Pike</td>
<td>16,978</td>
<td>7,296</td>
<td>43.0%</td>
<td>$7,708,022</td>
</tr>
<tr>
<td>44118</td>
<td>Cleveland Heights/University Heights</td>
<td>15,660</td>
<td>8,155</td>
<td>52.1%</td>
<td>$6,886,158</td>
</tr>
<tr>
<td>44022</td>
<td>Chagrin Falls/Moreland Hills/Bentleyville</td>
<td>6,315</td>
<td>4,318</td>
<td>68.4%</td>
<td>$6,185,772</td>
</tr>
<tr>
<td>44120</td>
<td>Shaker Heights</td>
<td>18,181</td>
<td>4,900</td>
<td>27.0%</td>
<td>$5,459,561</td>
</tr>
<tr>
<td>44145</td>
<td>Westlake</td>
<td>12,401</td>
<td>5,923</td>
<td>47.8%</td>
<td>$4,514,797</td>
</tr>
<tr>
<td>44107</td>
<td>Lakewood/Edgewater</td>
<td>23,793</td>
<td>8,213</td>
<td>34.5%</td>
<td>$4,503,618</td>
</tr>
<tr>
<td>44060</td>
<td>Mentor</td>
<td>25,639</td>
<td>7,593</td>
<td>29.6%</td>
<td>$4,464,611</td>
</tr>
<tr>
<td>44139</td>
<td>Solon</td>
<td>7,944</td>
<td>4,444</td>
<td>55.9%</td>
<td>$4,110,849</td>
</tr>
<tr>
<td>44106</td>
<td>Cleveland Heights</td>
<td>12,026</td>
<td>5,194</td>
<td>43.2%</td>
<td>$3,878,137</td>
</tr>
<tr>
<td>44116</td>
<td>Rocky River</td>
<td>8,826</td>
<td>4,428</td>
<td>50.2%</td>
<td>$3,548,088</td>
</tr>
<tr>
<td>44094</td>
<td>Willoughby</td>
<td>15,887</td>
<td>4,731</td>
<td>29.8%</td>
<td>$3,198,959</td>
</tr>
<tr>
<td>44121</td>
<td>Cleveland Heights</td>
<td>13,085</td>
<td>4,956</td>
<td>37.9%</td>
<td>$3,172,675</td>
</tr>
<tr>
<td>44143</td>
<td>Richmond Heights/Highland Heights/Mayfield</td>
<td>9,720</td>
<td>3,805</td>
<td>39.1%</td>
<td>$3,076,609</td>
</tr>
<tr>
<td>44256</td>
<td>Medina</td>
<td>22,416</td>
<td>6,336</td>
<td>28.3%</td>
<td>$3,068,131</td>
</tr>
</tbody>
</table>

Total Top ZIPS  221,794  88,744  40.0%  $76,501,607
Total Northeast Ohio market  1,568,863  303,163  19.3%  $178,606,440
Total ZIPS as a % of Total  14.1%  29.3%  42.8%
**CMD buyer trends**

Promotable households, all organizations

- Total unique CMD buying households have shown upward trend with “saw tooth” pattern.

---

**Total Unique CMD Buying Households by Segment**

<table>
<thead>
<tr>
<th>Segment</th>
<th>2006-07</th>
<th>2007-08</th>
<th>2008-09</th>
<th>2009-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Unique Promotable HH</td>
<td>92,872</td>
<td>112,703</td>
<td>105,286</td>
<td>116,599</td>
</tr>
<tr>
<td>Out of Market New</td>
<td>7,377</td>
<td>10,417</td>
<td>8,917</td>
<td>9,591</td>
</tr>
<tr>
<td>Out of Market Reactivated</td>
<td>4,951</td>
<td>5,694</td>
<td>5,082</td>
<td>5,082</td>
</tr>
<tr>
<td>In-Market New</td>
<td>26,662</td>
<td>32,939</td>
<td>27,961</td>
<td>31,512</td>
</tr>
<tr>
<td>In Market Reactivated</td>
<td>53,882</td>
<td>63,653</td>
<td>63,326</td>
<td>70,414</td>
</tr>
</tbody>
</table>
CMD buyer trends
Promotable households, all organizations

- Total unique CMD buying households have shown upward trend with “saw tooth” pattern.
- Out of market
  - New HH up and down, peak in 2007-08; driven by large punctuating events.
  - Reactivated HH flat
CMD buyer trends
Promotable households, all organizations

- Total unique CMD buying households have shown upward trend with “saw tooth” pattern.
- Out of market
  - New HH up and down, peak in 2007-08; driven by large punctuating events.
  - Reactivated HH flat
- In market
  - New HH fluctuates between 27k and 33k; peaks in 2007-08 and 2009-10 driven by large punctuating events.
  - Reactivated households account for 16.5k (70%) of growth
    - Flattens but doesn’t drop in 2008-09
    - Key to market growth
- We’ll revisit first-time in market households when we look at life-time value.

![Total Unique CMD Buying Households by Segment](image-url)

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<td>70,414</td>
</tr>
</tbody>
</table>
Trends: Households by Buyer Segment

- All segments grew in 2010-11.
- However, the growth is driven by a 5.2% increase in in-market, reactivated households.
The CMD market models

Comparative analysis of arts and culture buyers
# Market modeling process

## Market model review and data sources
- Statistically derived equation
  - Used to understand who your customers are
  - Used to select prospect households for promotions
- Comparison to cross sell models
- Data and sources
  - 25,000 random sample of available households from Experian in Cleveland-Elyria-Mentor, OH CBSA
  - Extensive household-level data was appended (number and age of adults, number and age of children, income, length of residence, direct response purchasing, etc.)
  - This data set also appended to two years of CMD buyers.

## Modeling process
- Buyers are matched against market sample and “flagged”; this is used to estimate the market penetration rate.
- Various statistical methods (algorithms) tested in model-building
Key predictive variables

- Education
- Catalog Multi-Buyer
- Age
- Income
- Location
- Family Structure
- Homeownership and Length of Residence
Comparative profile of buyers
**Head of household education distribution**

- CMD buyers are more likely to have a college or graduate degree

<table>
<thead>
<tr>
<th>Market Segments</th>
<th>Less than HS</th>
<th>HS</th>
<th>Some College</th>
<th>College</th>
<th>Graduate Degree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classes &amp; Workshops</td>
<td>2.1%</td>
<td>12.3%</td>
<td>17.8%</td>
<td>34.8%</td>
<td>33.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Singles</td>
<td>4.2%</td>
<td>20.5%</td>
<td>22.3%</td>
<td>28.7%</td>
<td>24.3%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Subscriptions</td>
<td>4.1%</td>
<td>16.7%</td>
<td>16.7%</td>
<td>28.6%</td>
<td>33.9%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Membership</td>
<td>4.2%</td>
<td>14.3%</td>
<td>17.4%</td>
<td>30.9%</td>
<td>33.2%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Visitation</td>
<td>4.4%</td>
<td>16.5%</td>
<td>17.9%</td>
<td>30.0%</td>
<td>31.2%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total CMD Buyers</td>
<td>4.5%</td>
<td>20.3%</td>
<td>22.1%</td>
<td>28.6%</td>
<td>24.5%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total Market</td>
<td><strong>16.0%</strong></td>
<td><strong>30.6%</strong></td>
<td><strong>26.4%</strong></td>
<td><strong>16.1%</strong></td>
<td><strong>10.9%</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>
Direct response and catalog buying

- CMD buyers are active direct response buyers. Subscription buyers are the most active.

<table>
<thead>
<tr>
<th>Market Segments</th>
<th>% DR Multibuyer</th>
<th>Gifts &amp; Gadgets</th>
<th>Books</th>
<th>Garden Mag</th>
<th>News &amp; Finance Mag</th>
<th>Health Contrib</th>
<th>Political Contrib</th>
<th>Upscale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classes &amp; Workshops</td>
<td>57.1%</td>
<td>19.5%</td>
<td>50.0%</td>
<td>7.3%</td>
<td>16.0%</td>
<td>14.9%</td>
<td>12.2%</td>
<td>4.3%</td>
</tr>
<tr>
<td>Singles</td>
<td>65.3%</td>
<td>23.7%</td>
<td>57.2%</td>
<td>9.2%</td>
<td>20.3%</td>
<td>22.3%</td>
<td>14.6%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Subscriptions</td>
<td>76.9%</td>
<td>31.9%</td>
<td>64.9%</td>
<td>12.3%</td>
<td>28.7%</td>
<td>32.3%</td>
<td>21.7%</td>
<td>9.7%</td>
</tr>
<tr>
<td>Membership</td>
<td>69.4%</td>
<td>27.5%</td>
<td>59.7%</td>
<td>12.8%</td>
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</tr>
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<td>Visitation</td>
<td>69.7%</td>
<td>27.9%</td>
<td>60.2%</td>
<td>13.9%</td>
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<td>Total CMD Buyers</td>
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<td>9.8%</td>
<td>20.5%</td>
<td>22.6%</td>
<td>14.8%</td>
<td>5.8%</td>
</tr>
<tr>
<td>Total Market</td>
<td>51.4%</td>
<td>14.8%</td>
<td>44.4%</td>
<td>6.9%</td>
<td>12.9%</td>
<td>16.2%</td>
<td>10.3%</td>
<td>3.4%</td>
</tr>
</tbody>
</table>
Overall, the distribution of the age of the head of household for CMD buyers is similar to the market; likelihood of a particular age range varies by product type.

<table>
<thead>
<tr>
<th>Market Segments</th>
<th>Age of Head of Household</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>19 to 24</td>
<td>25 to 34</td>
</tr>
<tr>
<td>Classes &amp; Workshops</td>
<td>1.4%</td>
<td>6.5%</td>
</tr>
<tr>
<td>Singles</td>
<td>2.1%</td>
<td>10.2%</td>
</tr>
<tr>
<td>Subscriptions</td>
<td>1.6%</td>
<td>5.4%</td>
</tr>
<tr>
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<td>5.9%</td>
</tr>
<tr>
<td>Visitation</td>
<td>1.6%</td>
<td>6.6%</td>
</tr>
<tr>
<td>Total CMD Buyers</td>
<td>2.0%</td>
<td>10.0%</td>
</tr>
<tr>
<td>Total Market</td>
<td>2.7%</td>
<td>12.2%</td>
</tr>
</tbody>
</table>
While all income levels are represented, CMD buyers are more likely to have an income of $100k or more.

<table>
<thead>
<tr>
<th>Market Segments</th>
<th>Under $35K</th>
<th>$35K to $49K</th>
<th>$50K to $74K</th>
<th>$75K to $99K</th>
<th>$100K to $149K</th>
<th>$150K+</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classes &amp; Workshops</td>
<td>7.2%</td>
<td>5.7%</td>
<td>13.9%</td>
<td>16.0%</td>
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<td>Membership</td>
<td>10.8%</td>
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<td>25.3%</td>
<td>15.2%</td>
<td>22.5%</td>
<td>14.4%</td>
<td>13.9%</td>
<td>8.7%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
CMD buyers are more likely to be married, and have 3+ adults in the household.

<table>
<thead>
<tr>
<th>Market Segments</th>
<th>Number of Adults</th>
<th>Presence of Children &lt;=18</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Classes &amp; Workshops</td>
<td>16.6%</td>
<td>45.4%</td>
</tr>
<tr>
<td>Singles</td>
<td>22.5%</td>
<td>35.5%</td>
</tr>
<tr>
<td>Subscriptions</td>
<td>22.2%</td>
<td>36.1%</td>
</tr>
<tr>
<td>Membership</td>
<td>22.7%</td>
<td>40.5%</td>
</tr>
<tr>
<td>Visitation</td>
<td>20.4%</td>
<td>38.8%</td>
</tr>
<tr>
<td>Total CMD Buyers</td>
<td>23.1%</td>
<td>36.1%</td>
</tr>
<tr>
<td>Total Market</td>
<td>38.8%</td>
<td>31.7%</td>
</tr>
</tbody>
</table>
Classes & workshops buyers are most likely to have children 18 years old or younger.

<table>
<thead>
<tr>
<th>Market Segments</th>
<th>Presence of Children &lt;=18</th>
<th>Average Number of Children</th>
<th>Age of Children</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>If Yes; 0-3</td>
</tr>
<tr>
<td>Classes &amp; Workshops</td>
<td>69.5%</td>
<td>2.4</td>
<td>45.0%</td>
</tr>
<tr>
<td>Singles</td>
<td>36.7%</td>
<td>2.0</td>
<td>43.9%</td>
</tr>
<tr>
<td>Subscriptions</td>
<td>25.1%</td>
<td>2.0</td>
<td>36.7%</td>
</tr>
<tr>
<td>Membership</td>
<td>37.2%</td>
<td>2.3</td>
<td>47.3%</td>
</tr>
<tr>
<td>Visitation</td>
<td>34.8%</td>
<td>2.1</td>
<td>46.8%</td>
</tr>
<tr>
<td>Total CMD Buyers</td>
<td>36.7%</td>
<td>2.1</td>
<td>45.2%</td>
</tr>
<tr>
<td>Total Market</td>
<td><strong>32.5%</strong></td>
<td><strong>1.7</strong></td>
<td><strong>43.8%</strong></td>
</tr>
</tbody>
</table>
CMD buyers are likely homeowners. Overall, the length of residence distribution of CMD buyers is similar to the market.

<table>
<thead>
<tr>
<th>Market Segments</th>
<th>Home Ownership</th>
<th>Length of Residence (Years)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0 to 4</td>
<td>5 to 9</td>
</tr>
<tr>
<td>Classes &amp; Workshops</td>
<td>92.9%</td>
<td>19.3%</td>
<td>32.3%</td>
</tr>
<tr>
<td>Singles</td>
<td>91.1%</td>
<td>17.8%</td>
<td>23.4%</td>
</tr>
<tr>
<td>Subscriptions</td>
<td>93.7%</td>
<td>11.6%</td>
<td>19.4%</td>
</tr>
<tr>
<td>Membership</td>
<td>92.4%</td>
<td>14.9%</td>
<td>23.8%</td>
</tr>
<tr>
<td>Visitation</td>
<td>92.8%</td>
<td>13.3%</td>
<td>23.0%</td>
</tr>
<tr>
<td>Total CMD Buyers</td>
<td>90.7%</td>
<td>18.1%</td>
<td>23.3%</td>
</tr>
<tr>
<td>Total Market</td>
<td>74.0%</td>
<td>28.9%</td>
<td>21.2%</td>
</tr>
</tbody>
</table>
Cross sell model

Find households that purchase culture like other buyers
Cross sell modeling process

**Cross sell concept**
- Originated in the catalog world
- Statistically derived equation used for strategic and tactical purposes
  - Think Amazon.com: uses purchasing data not demographics
  - More powerful than market models: Actions trump demographics

**Modeling process**
- Summarize buying for each household
  - Subscriptions: number of seasons subscribed
  - Single tickets: number of events purchased
  - Memberships: number of years of membership
  - Classes: number of classes purchased
  - Visits: number of visits
- Add total purchase summaries
  - How many product types purchased (subscriptions, single tickets, memberships, classes, visits)
  - Number of organizations purchased from
  - Total spent over the seven year period
  - Total seasons with any activity
  - Total orders of any kind
- Cross-validated neural network used after various algorithms tested
Underlying Buying Principle

- Making any cultural purchase from multiple organizations increases the probability of buying from a second organization:
  - 1 organization: 4.0%
  - 2 organizations: 7.8%
  - 3 organizations: 11.9%
  - 4+ organizations: 17.7%

- What is purchased shifts this basic curve up or down

- Same shape for almost all organizations and product lines
Lifetime value
Lifetime value

What is the long-term value of first-time customers?

- “Lifetime” is the goal but we’ll be looking at shorter, defined time frames.
- Value is based on purchases and gifts over the specified time frame.
- Process
- Define each group (cohort) of first-time buyers and examine the subsequent revenue stream from each group.
- We don’t have acquisition and reactivation costs so we’re evaluating the revenue stream only.
- Calculate the present value of revenue stream.

Why is it important?

- Provides a yardstick for measuring the return on your marketing investments now and over longer periods of time.
- Identifies hidden patterns and trends in customer behavior.
- Focuses new offers and programs for improving retention and re-activation.
CMD first-time, in market buyer trends
Promotable households, all organizations

- As discussed earlier, first-time buyer trends form a “saw toothed” pattern driven by large punctuating events.
- We’ll look at each first-time group as a cohort and follow their subsequent buying over time.
Key lifetime value metrics

**Present value factor**

- To compare cohorts from different seasons, we need to normalize the revenue streams.
  - Initial purchasing value in Year 0 always equals 1.
  - Cohort purchasing in later periods is discounted to reflect Year 0 dollars.
  - Cumulative discounted stream is divided by the initial purchasing value.

- An example: 2006-07 first-time CMD buyers

<table>
<thead>
<tr>
<th>Period</th>
<th>Number of HH</th>
<th>Revenue in 2006-07 Dollars</th>
<th>Cumulative Revenue in 2006-07 Dollars</th>
<th>Cumulative Present Value Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Cohort</td>
<td>26,662</td>
<td>$3,466,000</td>
<td>$3,466,000</td>
<td>1.00</td>
</tr>
<tr>
<td>Buy in 0-12 Months</td>
<td>5,747</td>
<td>$1,113,000</td>
<td>$4,579,000</td>
<td>1.32</td>
</tr>
<tr>
<td>Buy in 13-24 Months</td>
<td>5,382</td>
<td>$1,004,000</td>
<td>$5,583,000</td>
<td>1.61</td>
</tr>
<tr>
<td>Buy in 25-36 Months</td>
<td>4,861</td>
<td>$1,794,000</td>
<td>$7,377,000</td>
<td>2.13</td>
</tr>
</tbody>
</table>

**Other measurement tools**

- Annual reactivation rate
- Long-term cumulative reactivation rate
- Conversion rate to multi-organization customer
Present value factor trends

- Present value factors for each Cohort are tightly clustered and generally increase in value at about 30% per year.
- 2006-07 a little bit of an outlier in 25-36 month period. We think this is due to punctuating events in 2009-10 that boosted reactivation above expected level.
- You can think of the CMD audience as a portfolio of cohorts extending many years into the past.

<table>
<thead>
<tr>
<th>First Purchase</th>
<th>0-12 Months</th>
<th>13-24 Months</th>
<th>25 to 36 Months</th>
<th>37 to 48 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006-07</td>
<td>1.00</td>
<td>1.32</td>
<td>1.61</td>
<td>2.13</td>
</tr>
<tr>
<td>2007-08</td>
<td>1.00</td>
<td>1.32</td>
<td>1.58</td>
<td>2.03</td>
</tr>
<tr>
<td>2008-09</td>
<td>1.00</td>
<td>1.33</td>
<td>1.61</td>
<td></td>
</tr>
<tr>
<td>2009-10</td>
<td>1.00</td>
<td>1.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weighted Average PVF</td>
<td>1.00</td>
<td>1.31</td>
<td>1.60</td>
<td>2.00</td>
</tr>
</tbody>
</table>
Average buyer reactivation rates

- **Average annual reactivation**
  - 21% of each cohort returns within 0-12 months of their initial purchase.
  - Longer term, approaches 10%-15% per season.

---

**Buyer Reactivation Rates**

- **Avg Annual Reactivation**
  - 0-12 Months: 20.9%
  - 13-24 Months: 19.1%
  - 25 to 36 Months: 16.7%
  - 37 to 48 Months: 15.4%

- **Avg Cumulative Reactivation**
  - 0-12 Months: 20.9%
  - 13-24 Months: 32.7%
  - 25 to 36 Months: 39.0%
  - 37 to 48 Months: 44.1%

- **Avg First-Time Reactivation**
  - 0-12 Months: 20.9%
  - 13-24 Months: 11.2%
  - 25 to 36 Months: 5.9%
  - 37 to 48 Months: 3.7%

- **2 or More Orgs**
  - 0-12 Months: 6.5%
  - 13-24 Months: 11.4%
  - 25 to 36 Months: 15.2%
  - 37 to 48 Months: 19.8%
Average buyer reactivation rates

- **Average annual reactivation**
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- **Average cumulative reactivation**
  - 44% reactivation rate over 48 months; approaches 50%+ over the longer term.

<table>
<thead>
<tr>
<th>% of Original Cohort</th>
<th>0-12 Months</th>
<th>13-24 Months</th>
<th>25 to 36 Months</th>
<th>37 to 48 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg Annual Reactivation</td>
<td>20.9%</td>
<td>19.1%</td>
<td>16.7%</td>
<td>15.4%</td>
</tr>
<tr>
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<td>20.9%</td>
<td>32.7%</td>
<td>39.0%</td>
<td>44.1%</td>
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<td>11.2%</td>
<td>5.9%</td>
<td>3.7%</td>
</tr>
<tr>
<td>2 or More Orgs</td>
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<td>19.8%</td>
</tr>
</tbody>
</table>
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- **Average first-time reactivation**
  - Drops quickly after 12 months but flattens out over time.
  - Still, over 3.7% of original cohort reactivates for the first time in the fourth year.
  - This is reinforced by our recency findings in almost all promotions.

![Buyer Reactivation Rates](chart.png)
Average buyer reactivation rates

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  - This is reinforced by our recency findings in almost all promotions.

- **Active buyers: 2+ Organizations**
  - Almost 20% of original cohort has become customers of 2+ organizations by the end of 84 months.
  - This is key long-term value generating group within the CMD.
2009-10 CMD in market buying
Distribution by the season of first CMD purchase

- Summary: It really is a lifetime of value.

- 2009-10 first-time CMD buyers make up:
  - 29% of the households
  - 17% of the revenue.

- Households with a first CMD purchase from 2000-01 through 2008-09 make up:
  - 39% of the households
  - 36% of the revenue.

- Households with a first CMD purchase in 1999-00 or earlier make up:
  - 32% of the households
  - 47% of the revenue.

*The key is to develop a lifelong relationship between a customer and your organization. This relationship is what can generate future growth.

This chart shows that growth is dependent on maintaining a long term relationship with buyers - an organization's buyers never go away and the potential for reactivation is always present.
Characteristics of young buyers
Young buyers under 35

**Selection**
- Selected households where the maximum adult age was <35
- Represents 9.8% of the households in the market (based on Experian market sample)
- 7-year penetration rate is 5.4%

**Comparison to total market**
- Key variables (Buyers v Total Market Under 35)
  - Owns home (72.7% v 44.3%)
  - College or graduate degree (46.1% v 21.4%)
  - Married (60.1% v 38.9%)
  - 2+ adults (47.9% v 29.7%)
  - Direct response buyer (10.7% v 7.3%)
  - Income above $50k (69.3% v 47.8%)
  - Presence of children (42.8% v 46.9%)
- What they buy
  - Family shows: Sesame Street, Yo Gabba Gabba, Dora the Explorer
  - Newer Broadway shows: Avenue Q, In the Heights, Spring Awakening
Conclusion
Key Takeaways

- **Actions trump demographics** – What a household buys is far more powerful than who they are (or where they live) in predicting purchasing behavior. The cross-sell model often outperforms the market model (Slide 1).

- **Focusing only on “famous zip codes” is risky** – An organization that focuses its marketing efforts only on areas known to have significant populations of cultural buyers risks missing out on the majority of the arts and culture consumer market (Slide 10).

- **Aggressive collaboration will yield the highest returns** – While an organization can learn a lot from its own data, collaborating with others will give them a fuller understanding of the buying behaviors of their region’s arts and culture market. Arts and culture buyers are shared, not owned by organizations. This is especially true for the most active buyers (Slide 8).

- **Arts and culture buyers come from all walks of life** – While the market models suggest arts and culture buyers are more likely to have college or graduate degrees, household incomes of $100k or more, be married, and own their homes, it is important to recognize that arts and culture buyers are present in all data categories. In the case of age, the distribution varies by the product type being purchased (Slides 18-25).

- **A key to generating long-term value is to reactivate households, especially those with the most active buyers** – Reactivated households are a key to market growth (Slide 37). Arts and culture buyers that are the most active make up a small percentage of all promotable households, but they generate the highest percent of purchases (Slide 8).

- **Data collection and analysis is critical** – Customers speak through their actions. While it is imperative to maintain clean, consistent records, organizations can only gain insight by conducting regular analyses of the data that they have collected.
Contact Information

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  (216) 575-0331
  [http://cultureforward.org/Our-Programs/Collaborative](http://cultureforward.org/Our-Programs/Collaborative)