Big Data and Appraisers

Jeff Bradford, CEO
Bradford Technologies, Inc.
August 19, 2016
What does Big Data mean?

It’s a buzzword that refers to extremely large data sets that can be analyzed computationally to reveal patterns, trends, influences and associations, especially relating to human behavior and interactions.
Big Data Landscape - 2014

Bradford Technologies, Inc. - The Innovation Leader in Appraisal Software
How big data is transforming real estate

Marguerite Ward | @forwardist
Tuesday, 4 Aug 2015 | 1:33 PM ET

“The real estate industry is evolving from spreadsheets and simple reports. While useful, they’re so 1980s. Right now, we’re on the edge of a rapid evolution.”

How Big Data is Shaking up the Real Estate Industry
All industries are making increasing use of big data - and the real estate industry is no exception.

Big Data in Real Estate and Lending

Mortgage lenders use big data to qualify loan applicants, evaluate properties, quantify risks and set a loan's interest rate. The data includes listing and sales data in a property's immediate neighborhood, local/regional/national trends, interest rate forecasts and a whole slew of other information that helps to decide mortgage parameters.
Is Big Data Affecting Appraisers?
Of Course It Is!

- Collateral Underwriter
- LoanSafe by CoreLogic
- Real View by Platinum Data
- Risk Profiler by Collateral Analytics
- etc
CU & GLA Adjustments

$30/sqft GLA Adjustment Not Statistically Significant

$30/SqFt Adjustment
(no statistical significance)
Big Data in Review

VA uses LoanSafe Appraisal Manager on all Appraisals to Help Ensure Quality and Integrity

<table>
<thead>
<tr>
<th>Risk Score</th>
<th>Valuation Risk Score: 434</th>
<th>Integrity Risk Score: 656</th>
</tr>
</thead>
</table>

Appraised Value $285,000

- Undervaluation Risk
- Overvaluation Risk

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Lowest Risk</th>
<th>Highest Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparable Selection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property Complexity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market Risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Misrepresentation Risk</td>
<td>Lowest Risk</td>
<td>Highest Risk</td>
</tr>
</tbody>
</table>
MasterCard & Big Data

Evaluate real estate locations with transaction-based scoring and analytics.

Our suite of products provides reliable new insights into the sales-based performance of retail locations in the United States, Canada, U.K. and Australia. Powered by MasterCard Retail Location Scores, we use a fact-based approach unique to the industry, leveraging anonymous and aggregated transaction data from more than two billion cards.

Bradford Technologies, Inc. - The Innovation Leader in Appraisal Software
We scanned our massive database of over 19 billion data points of building records to bring you the critical details about this property. Harness the power of big data to make a smart decision on your next investment. The world's largest insurance and financial institutions have relied on our insights for nearly 10 years. Now it's your turn.
## This Property Compared to Neighbors

A comparison of 212 BEAVER ST with its surrounding neighborhood.

<table>
<thead>
<tr>
<th>Component</th>
<th>Date</th>
<th>Rating</th>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roof</td>
<td>2015-03-31</td>
<td>Above Average</td>
<td>1.1</td>
<td>Updated 1.1 yrs ago</td>
</tr>
<tr>
<td>Heating/Cooling</td>
<td>2015-03-04</td>
<td>Well Below Average</td>
<td>1.1</td>
<td>Updated 1.1 yrs ago</td>
</tr>
<tr>
<td>Electrical</td>
<td>2015-03-31</td>
<td>Excellent</td>
<td>1.1</td>
<td>Updated 1.1 yrs ago</td>
</tr>
<tr>
<td>Plumbing</td>
<td>2015-03-10</td>
<td>Average</td>
<td>1.1</td>
<td>Updated 1.1 yrs ago</td>
</tr>
</tbody>
</table>

[How this is calculated](#)
<table>
<thead>
<tr>
<th>Property Age</th>
<th>This Property</th>
<th>Older</th>
<th>Neighborhood</th>
<th>Older</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>61 yrs</td>
<td>50 yrs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How this is calculated

<table>
<thead>
<tr>
<th>Avg. Spend</th>
<th>This Property</th>
<th>Low</th>
<th>Neighborhood</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$0 K</td>
<td>$13K</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Nearby Properties with Updates
Properties close to 212 BEAVER ST with work done since 1980

213 BEAVER ST
Well Below Average
0.00
5
[not recorded]

215 BEAVER ST
Well Below Average
0.00
8
[not recorded]

208 BEAVER ST
Average
0.00
1
[not recorded]

206 BEAVER ST
Well Above Average
0.00
12
$43K

206 BEAVER ST BLDG B
Well Above Average
0.00
12
$43K
Construction activity serves as a proxy for economic activity, this data provides intelligence into how economic trends may affect your community. The data illustrates the types of permits being issued in your area, this can represent gentrification trends, residential redevelopments (flipped houses), demand for new roofs across the neighborhood may indicate hail activity in the area, etc.

Observing the trends in your neighborhood provides decision insights and empowers better property decisions.
Is Big Data Going to Help Appraisers?
Is Big Data Going to Help Appraisers?

Maybe
Let’s Peek Into the Future
Technology Is Exploding
But Not Appraisal Technology
Appraisers have **Powerful** Form Fillers
But still do a lot of manual work!
Can You Relate?
4-6 hrs to Complete an Appraisal

- 23% spend 2 to 3 hours
- 44% spend 3 to 6 hours
- 23% spend 6 or more hours

I typically spend 4 to 5 hours on a report not including field work with research and analysis taking up most of the time.
Appraisal Quality Issues

✓ Nationally, 50% of all appraisals are returned for corrections.
✓ One AMC was returning 91% of submitted appraisals
✓ Inconsistency in report due to cloning.
What is the most common appraisal quality issue?

- Unsupported Value Conclusion
- Inadequate Comparable Selection

Bradford Technologies, Inc. - The Innovation Leader in Appraisal Software
Collateral Underwriter Issues

Biggest Problems

Data Discrepancy

Comp Selection

Adjustments

Reconciliation
Lots of Room for Improvement
Two very large companies saw these issues and decided they can make lots of money by solving them.
First American Purchases...

- ACI
- Forsythe Appraisal – 250 staff appraisers
- Will combine appraisal software, big data and analytics to produce superior appraisals faster.
CoreLogic Purchases…

- RELS
- Landsafe
- FNC / Appraisalport
- Has 800 staff appraisers nationwide

- Will combine big data and analytics to produce superior appraisals faster.
Traditional 6 hr Appraisal Process

Data Gathering
Manual Process

Inspection & Analysis
Manual Process

Report
Manual Process
Reduce the Time with Automation

Automate Data Gathering | Analysis | Automate Form Filling Report

Bradford Technologies, Inc. - The Innovation Leader in Appraisal Software
New Collateral Valuation Workflow

First American – complete control from lender to appraiser

CoreLogic – complete control from lender to appraiser
They Control Entire Supply Chain

First American

Lender  →  AMC  Data  Analytics  Software  Appraiser

CoreLogic

Lender  →  AMC  Data  Analytics  Software  Appraiser

Bradford Technologies, Inc. - The Innovation Leader in Appraisal Software
In Australia

- 6-10 appraisals per day per appraiser
- Completed in 3 hours
- Delivered to lender within 48 hours
- 2000 appraisals per day
- 500 staff appraisers
- 100 apprentices in-training
In Next Two Years

- Appraisal Technology Will Heat Up
- AI for Form Filling
- Data Preloading
- GIS Based Influences
- Trends/Forecasting
- Third Party Inspectors
What will it look like?

It will involve Big Data Analytics – for sure!

Big Data reveals patterns, trends, influences and associations, especially relating to human behavior.

Will it pick your comps for you?
Will it determine the adjustments you should use?
Will it provide an acceptable range of value for you?
Will it pick the home for the buyer?
In Next Four Years

Appraisal Residential Credentials 2016-2020 Forecasted

No More Licensed Appraisers by 2020
So In Closing…
What Are You Going to Do?
Fill Out the URAR on a Tablet?
Are You Going to Use…

Bradford Technologies, Inc. - The Innovation Leader in Appraisal Software
Or Understand and Control Analysis
Make Big Data Work for You
My Advice

Remember What Business You are In
My Advice

Remember What Business You are In

You are in the Valuation Business
Ice Plant
Refrigeration Business
Learn the New Technology

• No one wants to give appraisers the “easy button” – at least that’s what they say.
• Every Big Data company believes they can pick comps, determine adjustments and the final value better than appraisers.
• If you can’t analyze markets, they may force you to use their “easy button”
Learn Regression
Learn to Analyze MLS Data

Washington, D.C.-MD-VA
Homes for Sale

Fewer than 30 days  More than 30 days

Bradford Technologies, Inc. - The Innovation Leader in Appraisal Software
Be Credible

- Transparency
- Trust
- Caring
- Expertise

Deliver what you promise
Be an Expert

- Transparency
- Trust
- Caring

Deliver what you promise

Expertise

Bradford Technologies, Inc. - The Innovation Leader in Appraisal Software
Don’t Focus on the 1004
Break Out of the 1004 Box
Valuation Business Is Big

- Alternative Valuations
- Portfolio Analysis
- Market Analysis
- Specialize
- AVMs

1004

Bradford Technologies, Inc. - The Innovation Leader in Appraisal Software
OPPORTUNITY

BRIGHT FUTURE

Bradford Technologies, Inc.
- The Leader in Computer-Aided Appraising Software
Thank You

Comments

jeff@bradfordsoftware.com