

New York City Tessitura Users Group



# BUILDING A DATA-DRIVEN CULTURE

Margaret Stockton, Jazz at Lincoln Center | Celia Elizondo, The Metropolitan Museum of Art | J. Olson, BAM

Session organizers:

Grayson Price, Jazz at Lincoln Center

Abby Hull, Carnegie Hall

Frank Marsilio, BAM

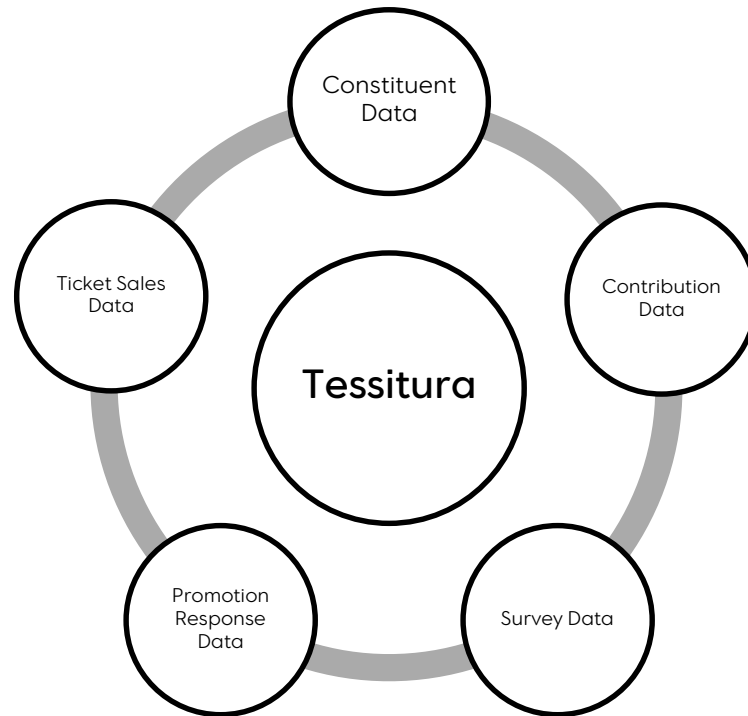
jazz at lincoln center

# jazz

**we believe jazz is a metaphor for democracy.**

- because jazz is improvisational, it celebrates personal freedom and encourages individual expression.
- because jazz is swinging, it dedicates that freedom to finding and maintaining common ground with others.
- because jazz is rooted in the blues, it inspires us to face adversity with persistent optimism.

# jazz





# Reports

- ⊗ (All)
- ⊗ (Recent)
- ⊗ Campaign and Appeal
- ⊗ Customer Service
- ⊗ Data Management
- ⊗ Development
- ⊗ Finance
- ⊗ Labels and Letters
- ⊗ Lists and Output Sets
- ⊗ Membership
- ⊗ Miscellaneous
- ⊗ NScan
- ⊗ Planned Giving
- ⊗ Renewal Notices and Bills
- ⊗ Resource Scheduling
- ⊗ Ticketing Box Office
- ⊗ Ticketing Processing
- ⊗ Ticketing Subscription

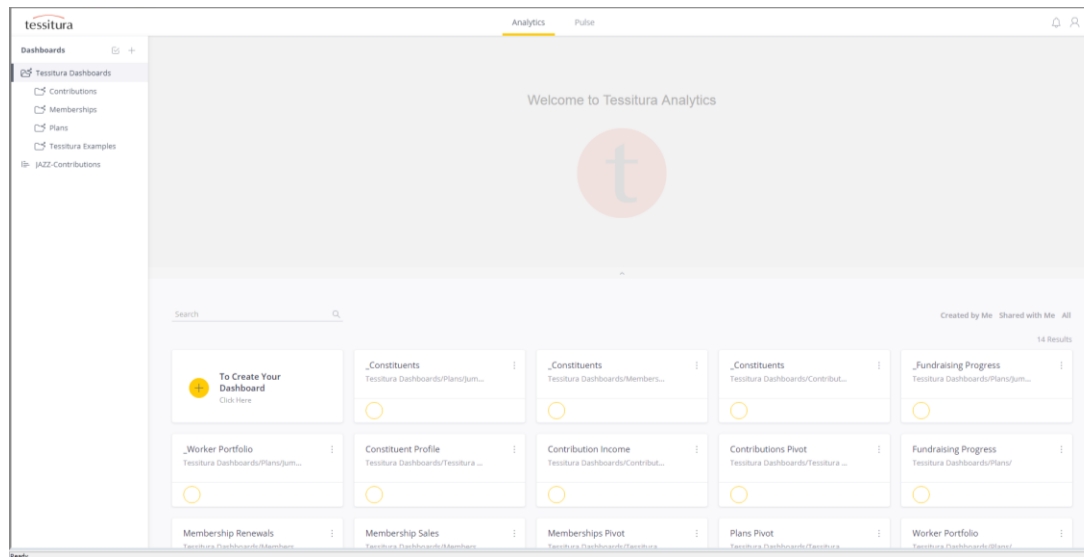


## Custom Reports

- Custom: Batch Details Report
- Custom: Box Office Summary [cc]
- Custom: Capital/Endowment Campaign Report
- Custom: Daily Sales Report Detail
- Custom: Daily Sales Report Snapshot
- Custom: Daily Sales Report Summary
- Custom: Directors Activity Report
- Custom: Event Marketing Statistics
- Custom: Event Sales Detail [cc]
- Custom: Fiscal Year Funding Overview
- Custom: Give-Get Report
- Custom: Membership Renewal Export
- Custom: Performance Report
- Custom: Production Proofing Report [cc]
- Custom: Prospect Review Report
- Custom: Recent Sales Report
- Custom: Research Notes Report
- Custom: Sales by Price Type/MOS [cc]
- Custom: Security Proofing Report
- Custom: Single Sale Order Listing
- Custom: TKTS Weekly Payments
- Custom: Transactions by Posting



# Tessitura Analytics





# Example of A Custom Report

**Jazz at Lincoln Center**

**Custom: Daily Sales Report Snapshot**

Parameters:  
Season(s): JALC Season 2019  
Events(s): (All)  
Performance(s): (All)  
Performance Date: 2018-09-13 to 2019-06-08  
Sale Date: 2019-01-03 to 2019-01-03

Billing  
1/4/2019 12:20 AM  
Page 1 of 8

Date / Time	Days to Show	Show	Current	Tot Amt	% Proj	Current	Avail	Today's Tix	Today's \$\$
			Projection			Variance			
1/11/2019 8:00pm	7	JLCO & NS Orchestra of Romania							
1/12/2019 8:00pm	8	JLCO & NS Orchestra of Romania							
1/24/2019 7:00pm	20	Life of a Legend:							
1/25/2019 7:00pm	21	Life of a Legend:							
1/26/2019 7:00pm	22	Wadada Leo Smith:							
1/26/2019 9:30pm	22	Wadada Leo Smith:							
2/7/2019 7:00pm	34	A Swingin' Sesame Street							
2/8/2019 7:00pm	35	A Swingin' Sesame Street							
2/9/2019 7:00pm	36	A Swingin' Sesame Street							
2/15/2019 8:00pm	42	Dianne Reeves							
2/16/2019 8:00pm	43	Dianne Reeves							
2/22/2019 7:00pm	49	Piano Master:							
2/22/2019 9:30pm	49	Piano Master:							



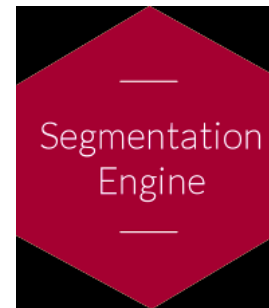
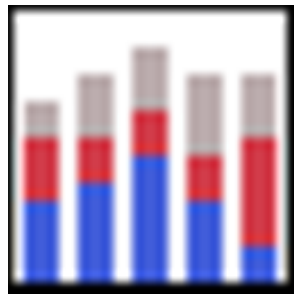
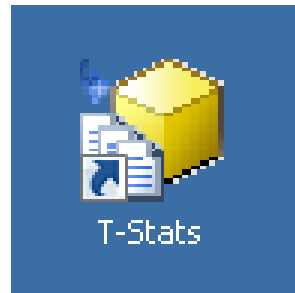
# The Same Report in Analytics

Q1 FY19 JAZZ SEASON

Fiscal Week Of Year	Performance	Performance Date and Code	Budget Amount	Ticket Count/...	Total Ticket Paid Amount	% of Budget	Total Seat Unsold Count/R...	Past Day Total Ticket Count	Past Day Total Ticket Paid Value
11	Elle Sang the Blues	2018-09-14 Fri(E)-ESB190914A							
		2018-09-14 Fri(E)-ESB190914B							
		2018-09-15 Sat(E)-ESB190915A							
		2018-09-15 Sat(E)-ESB190915B							
	Elle Sang the Blues Total								
Species by Wynton Marsalis	2018-09-13 Thu(E)-SWM190913								
		2018-09-14 Fri(E)-SWM190914							
	2018-09-15 Sat(E)-SWM190915								
Species by Wynton Marsalis Total									
14	American Roots	2018-10-05 Fri(E)-ARM191005A							
		2018-10-05 Fri(E)-ARM191005B							
		2018-10-06 Sat(E)-ARM191006							
		2018-10-06 Sat(E)-ARM191006B							
American Roots Total									
16	Joey Alexander with Strings	2018-10-19 Fri(E)-JAWS191019							
		2018-10-20 Sat(E)-JAWS191020							
Joey Alexander with Strings Total									
17	Monk's Dream	2018-10-26 Fri(E)-MD191026A							
		2018-10-26 Fri(E)-MD191026B							
		2018-10-27 Sat(E)-MD191027A							
		2018-10-27 Sat(E)-MD191027B							

# jazz

## T-Stats, RMA and The Segmentation Engine



# jazz

## Wealth Screening



FOUNDATION *Search* 



thank you.

Margaret Stockton  
Applications Administrator  
Email: [MStockton@jazz.org](mailto:MStockton@jazz.org)



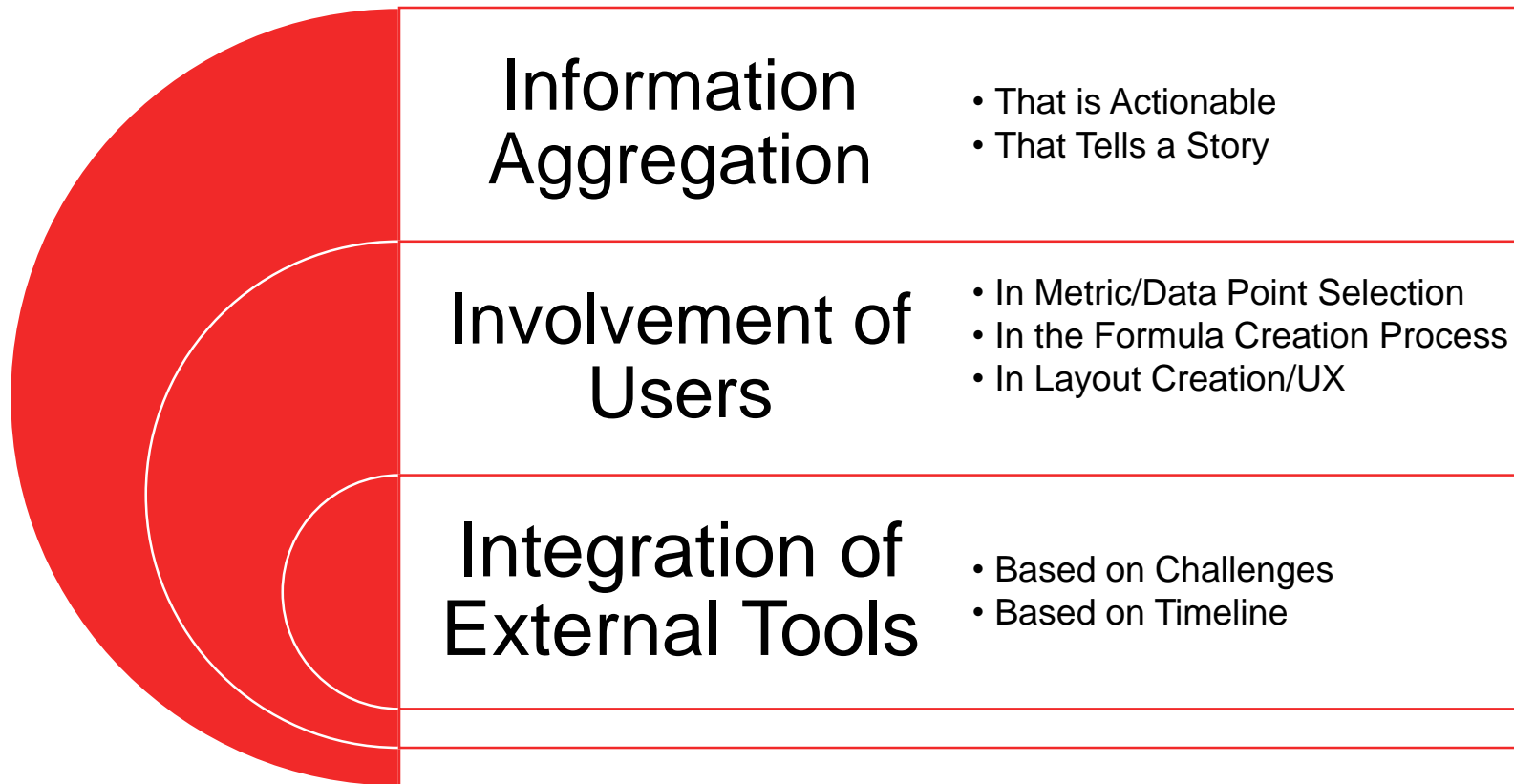
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# Data Tools

for Prospect Management

# Components of Data Tool Development

Some of the most adopted Tessitura data tools we have developed had three common components in the development process:

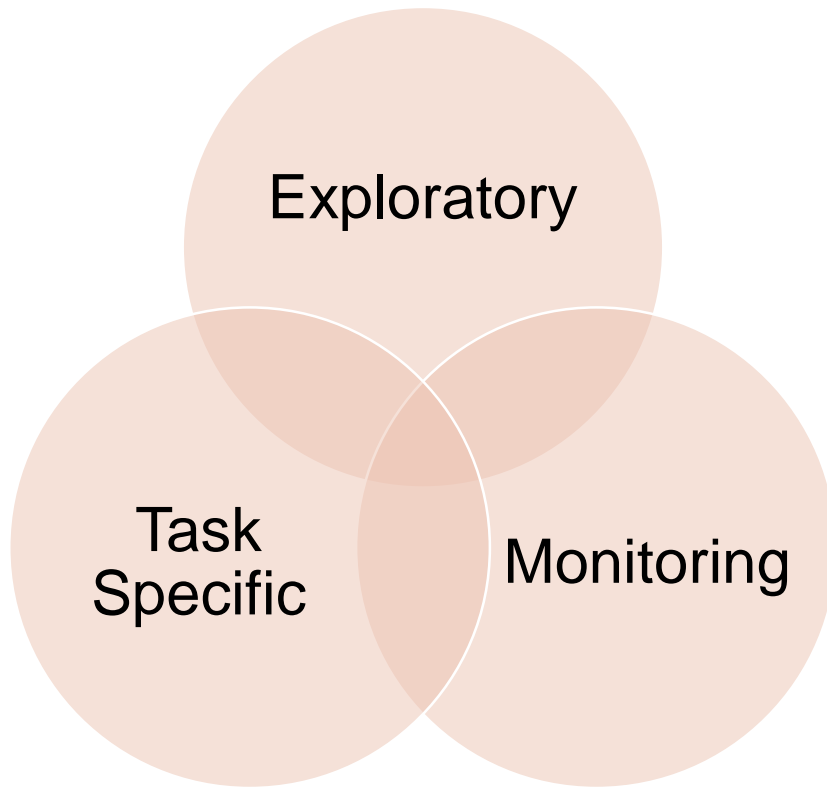


# Data Tool Components

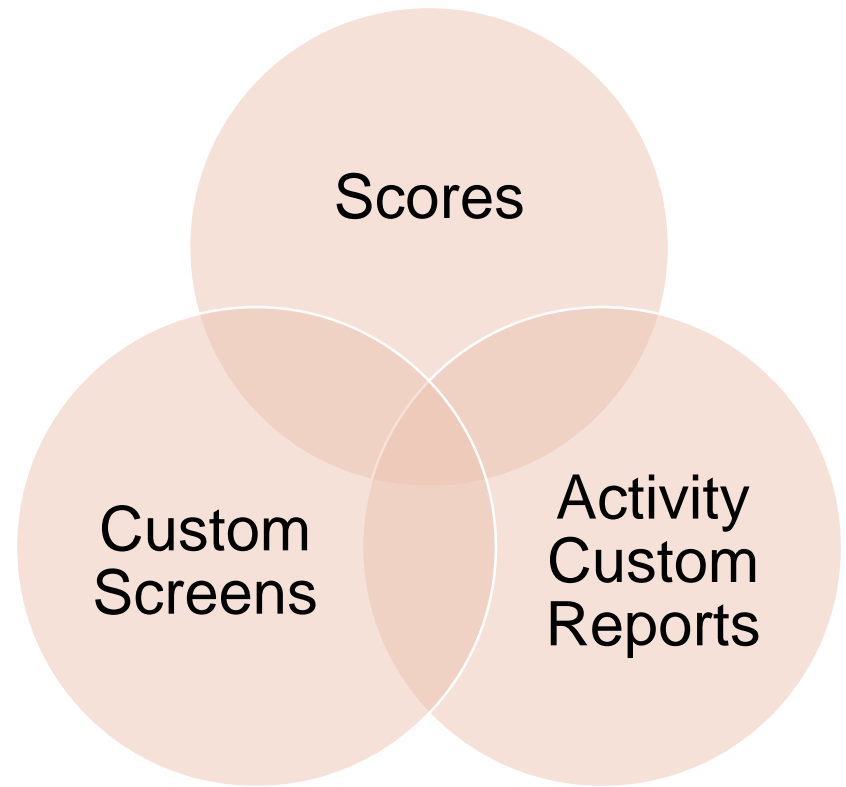
Information Aggregation Methods, Tools for Involving Users/Decision Makers and Types of Internal and External Tools

# Information Aggregation Methods

Categories of Data Applications



How Some of Our Data Tools Compare



\*as taught in the UX and Design for Analytical Applications class at Columbia University

# Tools for Involving Users/Decision Makers



## Data Dictionaries

get more informed input on metrics that should be included in a data tools by providing information in a more digestible format



## Interactive Formula Tools

get users involved in the formulation process by having them suggest weights for various metrics in an interactive environment



## Mock-ups

promote more input on changes before putting data tools into production

# Internal tools

In addition to Tessitura's native data tools keep in mind the data points that already exist which can be used to create custom tools

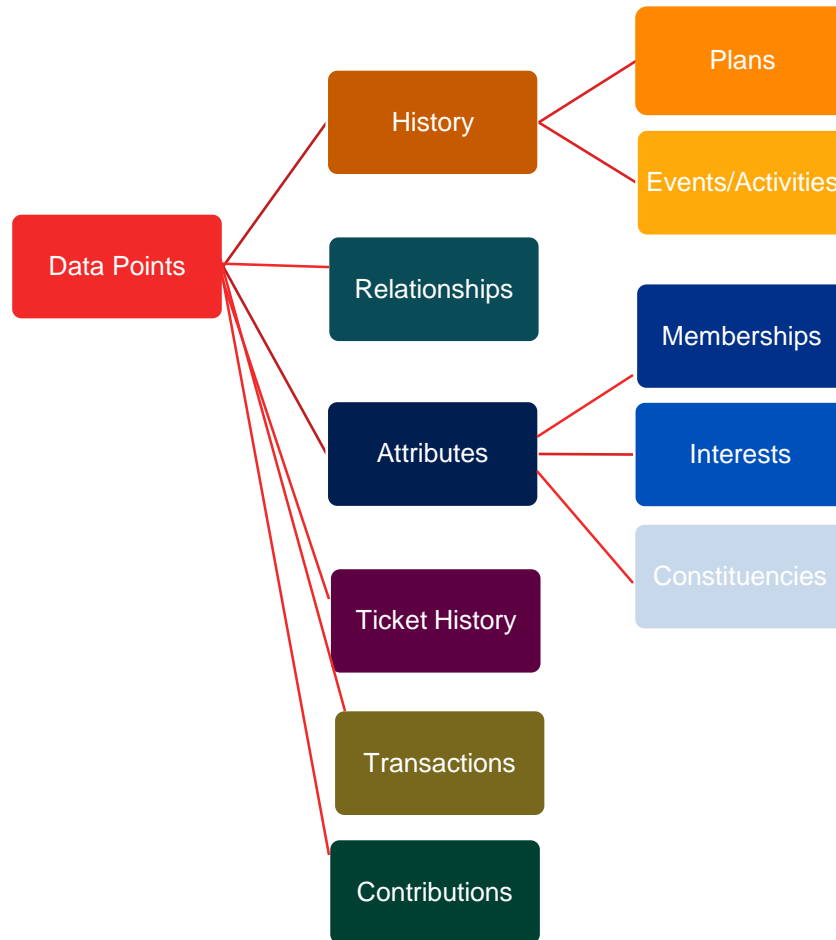


## Data Tools

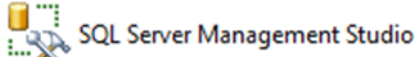
Plans

List  
Manager

Canned  
Reports



# External tools



- Perfect Tessitura partner solution
- Create custom Tessitura reports
- Relatively easy Tessitura integration
- Multiple export options
- Custom formatting options
- Run Ad-Hoc queries



- Statistics
- Quick data manipulation
- Free
- Exploratory/interactive
- Quick mapping capabilities
- Low startup costs (with reader)

## R and tableau resources

### R cheat sheets

<https://www.rstudio.com/resources/cheatsheets/>

statistics excerpt from Base R cheat sheet

### Statistics

`lm(y ~ x, data=df)`  
Linear model.

`glm(y ~ x, data=df)`  
Generalised linear model.

`summary`  
Get more detailed information out a model.

`t.test(x, y)`  
Perform a t-test for difference between means.

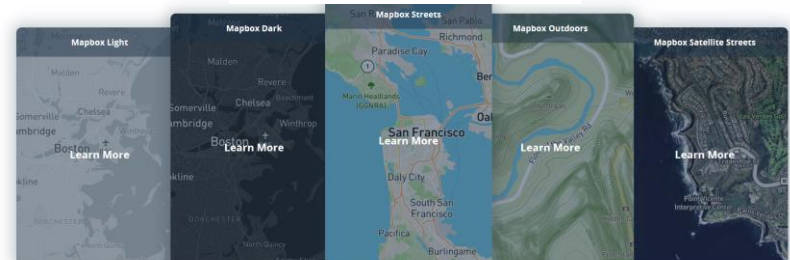
`pairwise.t.test`  
Perform a t-test for paired data.

`prop.test`  
Test for a difference between proportions.

`aov`  
Analysis of variance.

### mapbox integration with tableau

<https://www.mapbox.com/help/tableau-integration/>

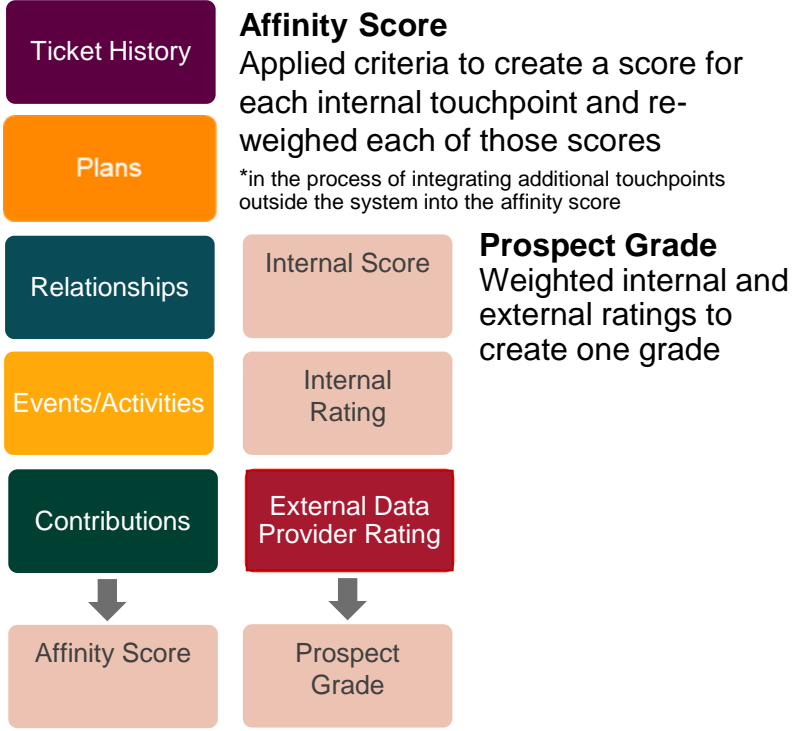


# Data Tool Methods

Scores, Custom Screens and Activity Reports

# Data Tool Method #1: Scores/Grades

## Information Aggregation:



## Involve Users:

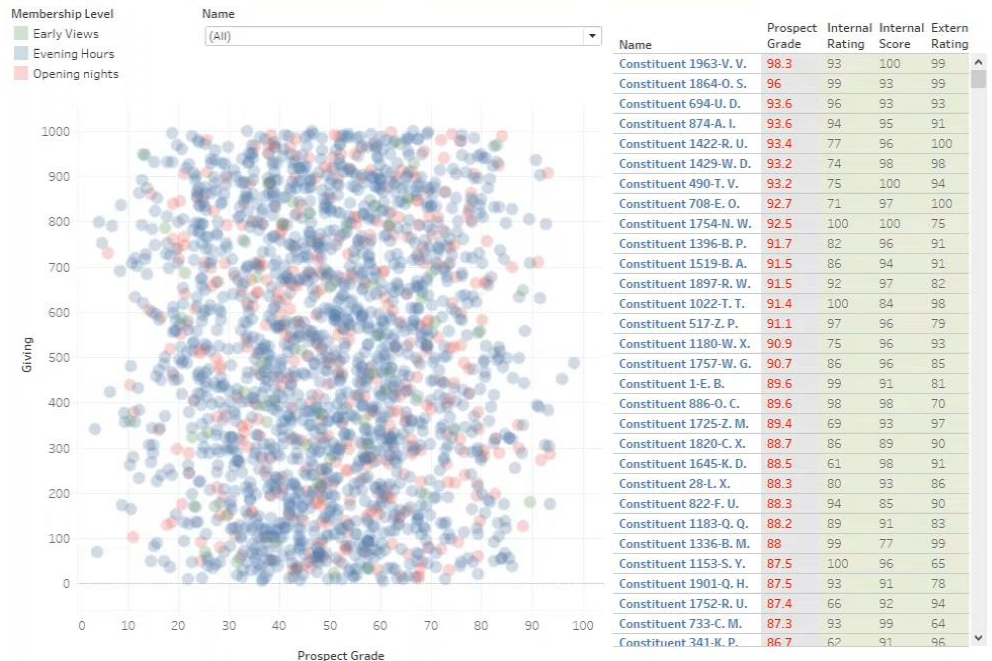


Tableau grade creation tool

### Prospect Grade

enter percentage weights for each rating/score to get prospect grade

Internal Score Weight: 50 + Internal Rating Weight: 20 + External Rating Weight: 30 = Prospect Grade



## Integrate External Tools:

- for quick statistics and managing the large data set
- aggregating data and scripting procedure so that it auto generates the score/grade on a schedule
- interactive score building tool

# Data Tools Method# 2: Custom Screens

## Internal Ratings Screen

Interest	Notes
<b>Rating</b>	
S1	research notes
<b>AFFINITY</b>	
AFFINITY SCORE	18.5
AFFINITY PERCENTILE	90.50%
AFFINITY SCORE RANK	10500
<b>PROSPECT GRADE</b>	
PROSPECT GRADE	65.7
PROSPECT GRADE PERCENTILE	90.10%
PROSPECT GRADE RANK	950

## Data Provider Ratings Screen

THE MET
MMA: Screen
Date Screened:

### Predictive

Datapoint:	value		<b>Data point Breakdown:</b>
Datapoint:	value		Datapoint: value
Datapoint:	value		Data point: value
			Datapoint: value
			Datapoint: value

### Modeled

Datapoint:	value	
Data point:	value	
Datapoint:	value	
Datapoint:	value	
Datapoint:	value	
Datapoint:	value	
Datapoint:	value	

### Descriptors and Attributes

Datapoint:	value	!	
Data point:	value	!	
Datapoint:	value	✓	quality match

#### Descriptor Category 1:

Data point:	value	!
Datapoint:	value	✓
Datapoint:	value	✓

#### Descriptor Category 2:

Datapoint:	value	✓
Data point:	value	!
Datapoint:	value	!
Datapoint:	value	!

# Data Tools Method# 2: Custom Screens

## Information Aggregation:

Screen #1 -Internal Ratings

Internal Rating

Internal Grade


Internal Score


Screen #2 –Screening from Data Provider

External  
Data Provider  
Ratings


- Reduced +50 metrics from a data screening to less than 30 that were relevant
- Communicated additional information with:
  - icons
  - tooltips
  - category breakouts

## Integrate External Tools:

 manipulating large dataset for more efficient upload (using dplyr and tidyr packages)

 interactive data dictionary

 mock-up screen

 script procedure to format and aggregate data for screen

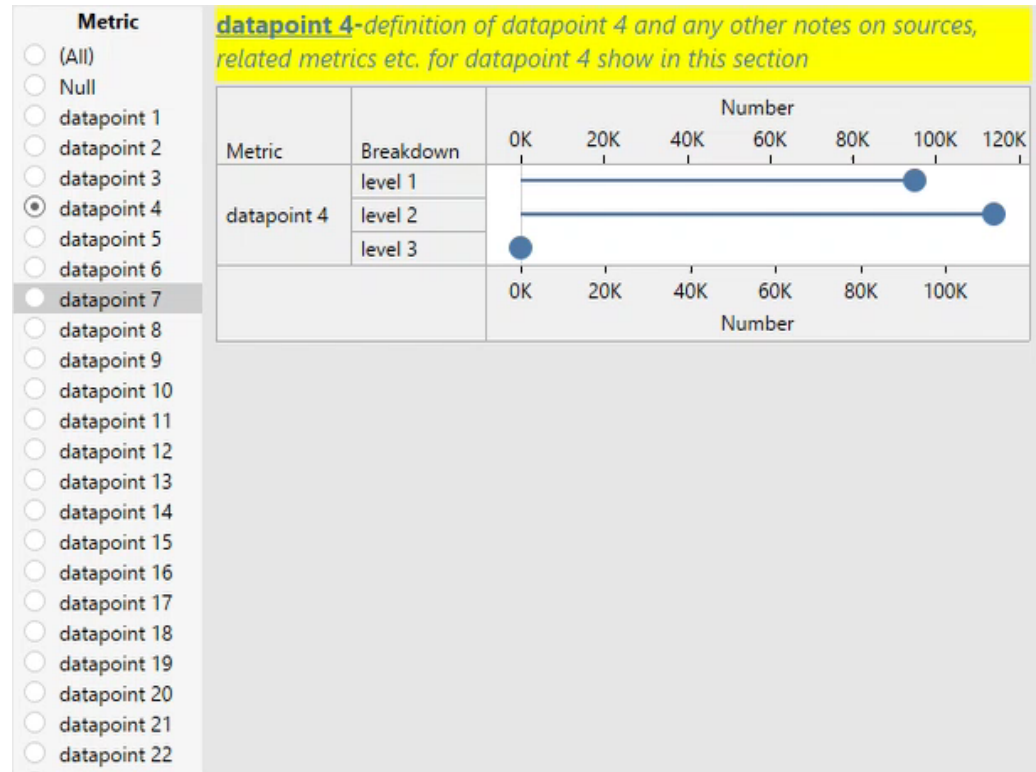
## Involve Users:



Tableau data dictionary



Excel screen mockup



# Data Tool Method# 3: Activity Report

Thinking about communicating data more simply with layout and icons vs. numbers drove the development of this report

Enter parameters to run MMA: Development Activity by Date in the current window

Start Date .....(Required) 12/27/2017

End Date .....(Required) 01/04/2018

Worker .....(Optional)

Name	Admissions	Contributions						Membership Transactions		Contacts	Balcony Lounge	Special Events (S) or Met Live Arts (M)		
	Visits	Gifts	Total Gift Amount	Pledges	Pledge Amount	Payments on Pledges	Gifts in Kind	Membership Level	Status	Contacts	Visits	Attended Event	Purchased Tickets	Scheduled Attendance Next 2 Wks
<b>Worker #1</b>														
★ <a href="#">10000</a> constituent #1		● 1	\$100					🎁 Early Views	New			● M		
★ <a href="#">10001</a> constituent #2						● \$150								● M
★ <a href="#">10002</a> constituent #3						● \$600						● S		
★ <a href="#">10003</a> constituent #4	● 1	● 1	\$200					🎁 Evening Hours	New					
<a href="#">10004</a> constituent #5				● 1	\$200									
★ <a href="#">10005</a> constituent #6	● 1												● M	
★ <a href="#">10006</a> constituent #7														
<a href="#">10007</a> constituent #8		● 1	\$100				🚩							
★ <a href="#">10008</a> constituent #9		● 1	\$200					Evening Hours	Renewed					
<b>Worker #2</b>														
★ <a href="#">10009</a> constituent #10	● 1											● S		
<a href="#">10010</a> constituent #11		● 1	\$200					Evening Hours	Renewed					
★ <a href="#">10011</a> constituent #12		● 1	\$100					🎁 Early Views	New					

# Data Tool Method# 3: Activity Report

## Information Aggregation:

Ticket History	Memberships
Contributions	Transactions
Plans	Events/Activities

additional level of detail:

- time frame
- pipeline/worker
- membership type change

communicated additional information with:

- icons
- link back to constituent tab on the customer no

## Integrate External Tools:



aggregate data and script scheduled procedure



create report interface with icons, setup worker & date parameter



mock-up report with icons

## Involve Users:



Excel mock-up utilizing icon sets and characters

The image shows an Excel ribbon with the 'Styles' group expanded, highlighting 'Icon Sets'. Below it, the 'Character Map' dialog box is open, showing the 'Wingdings' font. A red arrow points to the up arrow icon in the character grid. To the right of the dialog, a preview of various icon sets is shown, including 'Directional', 'Shapes', 'Indicators', and 'Ratings'.

# Conclusion

## Learn from Data Tools that Succeed and Fail in Adoption

### Reactions

- initial feedback can show how actionable a tool will become

### Results

- is the report being utilized on it's own or in conjunction with other data tools to take action steps

### Adjustments

- track post-launch adjustments to determine what changes can be made to the data tool development process for future projects

## Continue to Look for Ways to Improve Existing Data Tools

### Consolidation

- opportunities for report consolidation

### New Data Points

- incorporating new data being generated or existing data that has become more relevant

### Requests

- incorporating new data requests

# Contact Information



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**Development**

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[metmuseum.org](http://metmuseum.org)

**The Metropolitan  
Museum of Art**

# How I learned to stop worrying and...

J Olson

Associate Director of Development Operations, Analytics  
Brooklyn Academy of Music

# Projects

## Complete

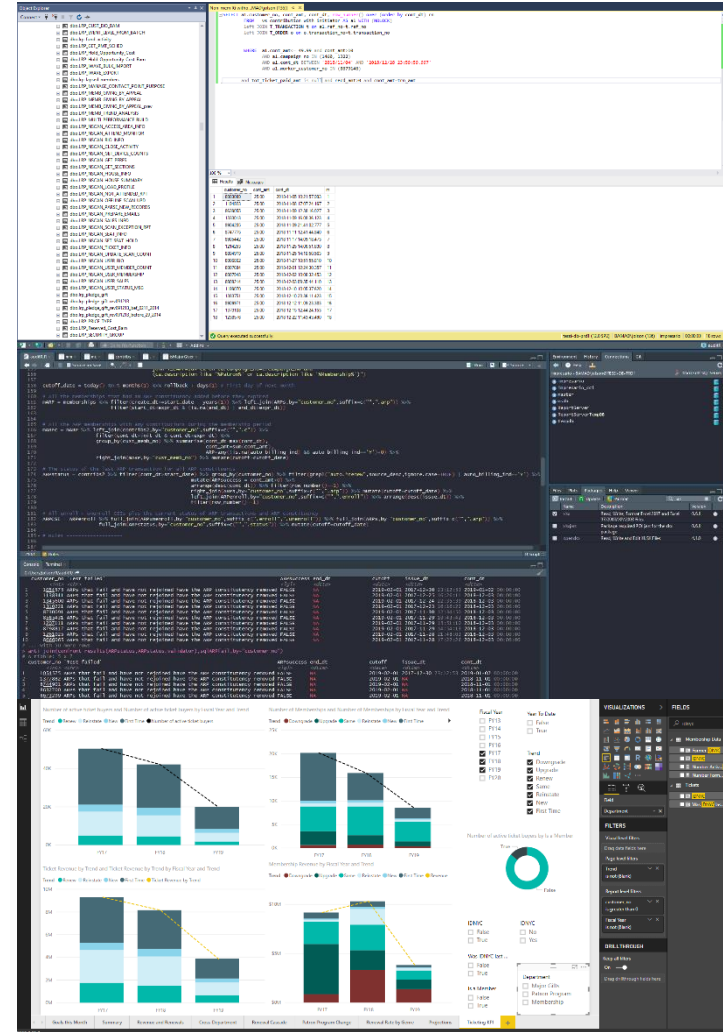
- Dynamic (Power BI) reports
- Deduplication
- Data append

## In progress

- Membership modeling and forecasting
- Real-time data auditing
- Appeal performance: pseudoexperiments on matched samples

# Workflow

Tessitura + ~~T-Stats~~  
SQL (Server Management Studio)  
R (and Rstudio)  
Power BI



# Workflow

Data Cleaning

R+Power BI → Tessi (but how?)

Exploratory Data Analysis

SQL+R+Power BI

Statistical Analysis, Modeling and Forecasting

R+?

# Power BI Reports

[Membership](#)

[Appeal Performance](#)

[Ticketing](#)

# Deduplication

## Power BI

Probabilistic record matching (<https://github.com/kosukeimai/fastLink>)

Supervised machine learning:

- Training (from already merged duplicates!)
- Blocking
- Matching.....
- And then?!?

	fname	lname	address	street1	phone	postal_code	counts	weights	p.gamma.j.m	p.gamma.j.u	zeta.j
145	M	M	NA	NM	NA	NM	5068	13.355	0.006	0	0.921
233	M	M	NM	M	NM	M	4380	25.288	0.002	0	1.000
20	M	M	M	NM	NM	NM	4357	24.881	0.001	0	1.000
99	M	M	NA	NM	M	NM	4121	25.576	0.004	0	1.000
85	M	M	NM	NM	M	NM	3953	24.432	0.001	0	1.000
200	M	M	NM	NM	NM	M	3945	15.547	0.001	0	0.990
254	M	M	NA	M	NM	M	2629	26.432	0.007	0	1.000
487	M	M	NM	NA	NA	NA	2540	14.397	0.017	0	0.971
328	M	M	NA	M	M	M	2514	39.788	0.015	0	1.000
92	M	M	M	NM	M	NM	1851	38.238	0.003	0	1.000
221	M	M	NA	NM	NM	M	1656	16.690	0.003	0	0.997
243	M	M	M	M	NM	M	1540	39.094	0.005	0	1.000
381	M	M	NA	M	NA	M	1534	27.568	0.023	0	1.000
310	M	M	NM	M	M	M	1509	38.645	0.005	0	1.000

# Data append

## Power BI

Peachtree, MMI, and Experian

- Test dataset with some known values
- Statistical analysis: comparisons to Audience 360, to each other, and to known values...
- Major practical and theoretical concerns
- TBD: surveys + panel on best practices in social sciences and other fields...
- Comments please!!!

# In Progress

- Membership modeling and forecasting  
[Plotly](#) / [Power BI](#)
- Real-time data auditing

```
contribution.validator = validator(.data=  
  bind_rows(  
    c(name="Every non-zero contribution has a membership",  
      rule="if(cont_amt>0) !is.na(cust_memb_no)"),  
    c(name="Every non-zero contribution has an active membership",  
      rule="if(cont_amt>0) current_status %in% c(2,3,9)")  
  )  
)  
confront_results(cm,contribution.validator)
```

- Appeal performance: pseudoexperiments on matched samples!

Thank you!

[jolson@bam.org](mailto:jolson@bam.org)

An aerial, high-angle view of a dense city skyline, likely New York City, with numerous skyscrapers and buildings. The image is in grayscale. Overlaid on the center is a Venn diagram consisting of three overlapping circles. The top circle is a light teal color, the bottom-left circle is a medium teal color, and the bottom-right circle is a light gray color. The text 'Q & A' is centered in the intersection of the three circles.

Q & A

# Join us for Happy Hour!

## Characters NYC Bar & Grill

243 W 54<sup>th</sup> Street

