

7 roads to data-driven value creation

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7 roads to data-driven value creation



Not a closed list, not a recipe!

Rather, these are essential building blocks for a strategy of value creation based on data.

1. PREDICT




Prediction: The ones doing it

1. Predictive churn / default / ... (banks / telco)

2. Predicting crime  **PredPol**
Predict Crime in Real Time™

3. Predicting deals  **TILKÆE**

4. Predictive maintenance  **CAT**




Prediction: the hard part

1. Collecting data ([cold start problem](#))
2. Risk missing the long tail, algorithmic discrimination, stereotyping
3. Neglect of novelty

2. SUGGEST



Suggestion: The ones doing it

1. Amazon's product recommendation system 
2. Google's "Related searches..." 
3. Retailer's personalized recommendations 

Suggestion: the hard part

1. The [cold start problem](#), managing serendipity (see review: [paying version](#), free version not available) and "filter bubble" effects (review: [paying version](#), [free version here](#)).
2. Finding the value proposition which goes beyond the simple "you purchased this, you'll like that"

3. CURATE



Curation: The ones doing it

1. Clarivate Analytics curating metadata from scientific publishing



2. Nielsen and IRI curating and selling retail data



3. IMDb curating and selling movie data



Curation: the hard part

1. Slow progress: curation needs human labor to insure high accuracy, it does not scale the way a computerized process would.
2. Must maintain continuity: missing a single year or month hurts the value of the overall dataset disproportionately.
3. Scaling up / right incentives for the workforce: the workforce doing the curation should be paid fairly, which is [not the case yet](#).
4. Quality control

4. ENRICH



Enrichment: The ones doing it

1. Selling methods and tools to enrich datasets



2. Selling aggregated indicators



3. Selling credit scores

Enrichment: the hard part

1. Knowing which cocktail of data is valued by the market

2. Limit replicability

3. Establish legitimacy

5. RANK / MATCH / COMPARE



Ranking / matching / comparing: The ones doing it

1. Search engines ranking results 
2. Yelp, Tripadvisor, etc... which rank places 
3. Any system that needs to filter out best quality entities among a crowd of candidates

Ranking / matching / comparing: the hard part


1. Finding emergent, implicit attributes (imagine: if you rank things based on just one public feature: not interesting nor valuable)
2. Insuring consistency of the ranking (many rankings are less straightforward than they appear)
3. Avoid gaming of the system by the users (for instance, [companies try to play Google's ranking of search results at their advantage](#))

6. SEGMENT / CLASSIFY

Chihuahua or Muffin?



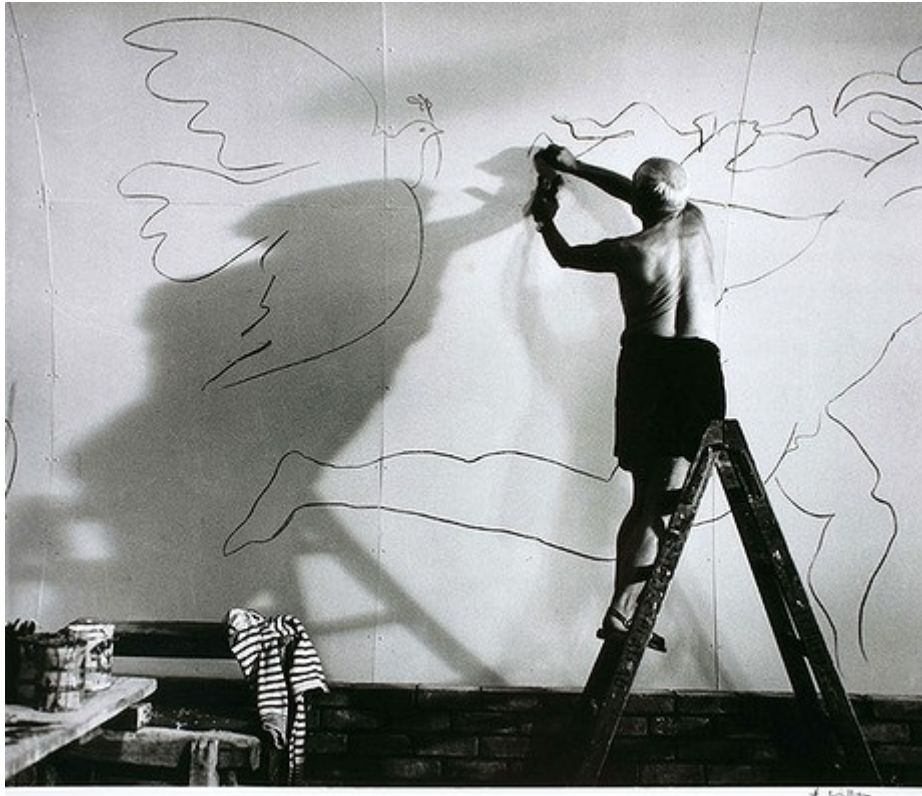
Segmenting / classifying: The ones doing it

1. Tools for discovery / exploratory analysis by segmentation
2. Diagnostic tools (spam or not? buy, hold or sell? healthy or not?) 

Segmenting / classifying: the hard part

1. Evaluating the quality of the comparison
2. Dealing with boundary cases
3. Choosing between a pre-determined number of segments (like in the k-means) or letting the number of segments emerge

7. GENERATE / SYNTHETIZE(experimental!)



Generating: The ones doing it


(click on the logos to get to the relevant web page)

1. Intelligent BI with [Aiden](#) 

2. [wit.ai](#), the chatbot by FB 

3. [Virtual assistants company](#) 

4. [Image generation](#) 

5. [Close-to-real-life speech synthesis](#) 

6. [Generating realistic car models from a few parameters by Autodesk](#): 

A video on the generation of car models by Autodesk:

► <https://www.youtube.com/watch?v=25xQs0Hs1z0> (YouTube video)

Generating: the hard part

1. Should not create a failed product / false expectations



2. Both classic (think of) and frontier science: not sure where it's going

Combos!



Figure 1. Combinations

The end

Find references for this lesson, and other lessons, [here](#).



This course is made by Clement Levallois.

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