INVESTOR TARGETING MITTELS KÜNSTLICHER INTELLIGENZ

IST DIE MASCHINE DER BESSERE BROKER?

ACCNITE onDemand

22.06.2021

PRESENTING TEAM

Christian Bacherl

Founder and Managing Partner of ACCNITE onDemand

Responsible for Business Development, Strategic Cooperations and Alliances

More than 20 years professional experience in Investment Banking. Responsible for teams in Capital Markets, Corporate Brokerage, Corporate Access and Equity Research

Maria Töpfer

Founder and Managing Partner of ACCNITE onDemand

Responsible for Account Management, Business Development, Finance and Controlling

Professional experience in Investment Banking in Corporate Finance and Equity Capital Markets. Previously with Big4 and DAX30

Dr. Volker Stümpflen

Partner Data Science and AI at ACCNITE onDemand

Responsible for AI and Big Data

More than 20 years professional experience in Big Data and AI in the ITC sector, biomedicine and fintech

ACCNITE onDemand AT A GLANCE

ACCNITE onDemand is an intelligent investor access and IRM tool

The cloud-based solution connects listed companies with institutional investors

Shareholder Analysis

Opportunities based on AI

IRM Tool

Event Organisation

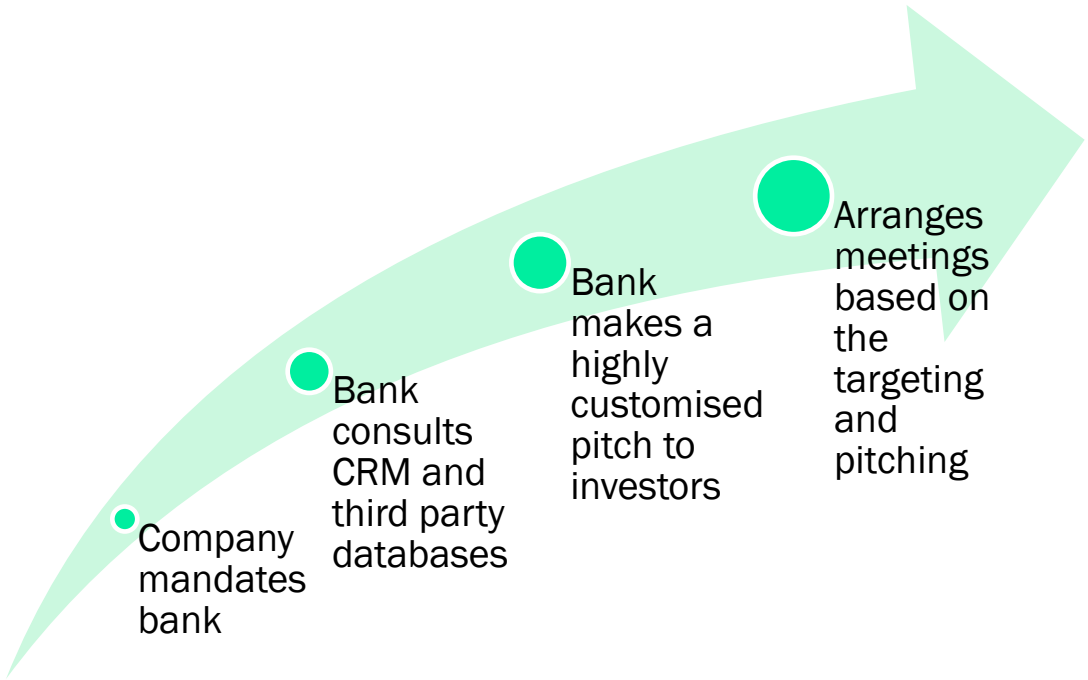
Feedback Collection

AGENDA

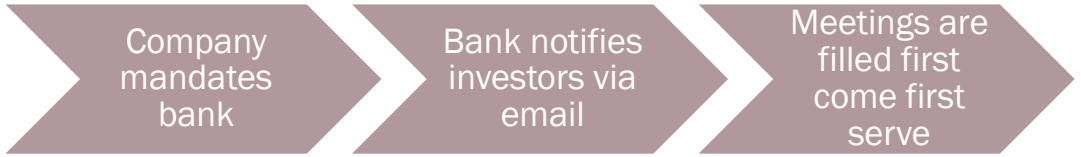
- The conventional approach to investor access
- The traditional method of investor targeting
- How to tackle investor targeting with AI
- The difference in results
- What’s next after targeting
- Q&A

WHAT HAPPENS WHEN YOU ASK A BANK TO ORGANISE MEETINGS

What should happen



What mostly happens



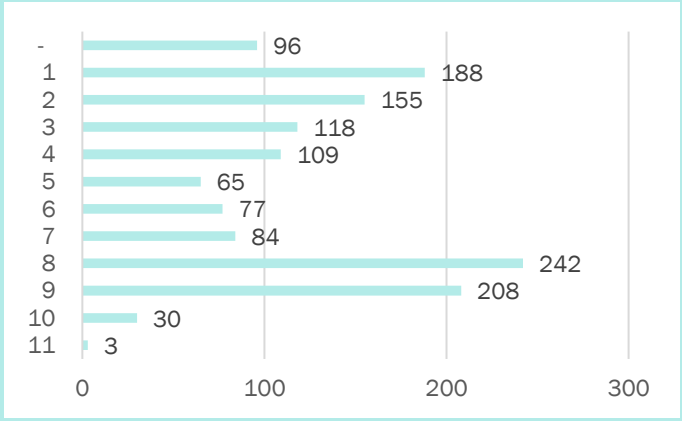
THE PITFALLS OF A MERGED SHAREHOLDER ANALYSIS

Task	Common Criteria	Issues
Select peer group	Sector Country/Index Market Cap	Financial KPIs ESG criteria ...
Analyse data	Relevance by number of peer investments	Consistent peer group Data at institution vs fund level
Find contact	Decision maker for the relevant portfolio	Need to know institution or look through to fund level

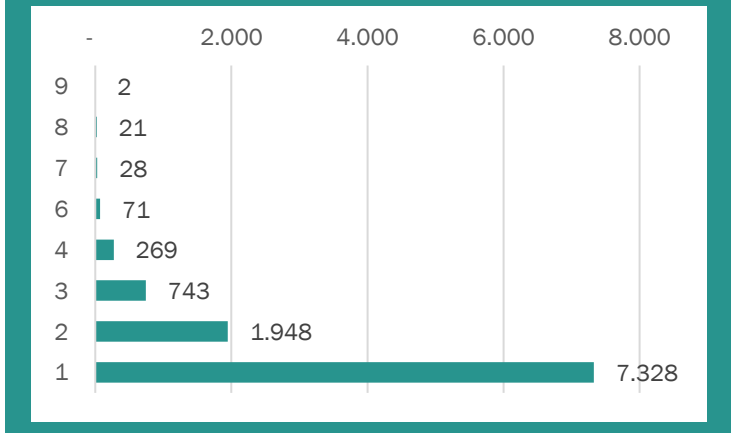
TRADITIONAL INVESTOR TARGETING FOR “EXAMPLE SE”

Market cap (EUR bn):	~ 25
Investors identified:	~ 1,400
Peers selected:	11
Number of lines:	~ 12,000

Investors: Peer investments



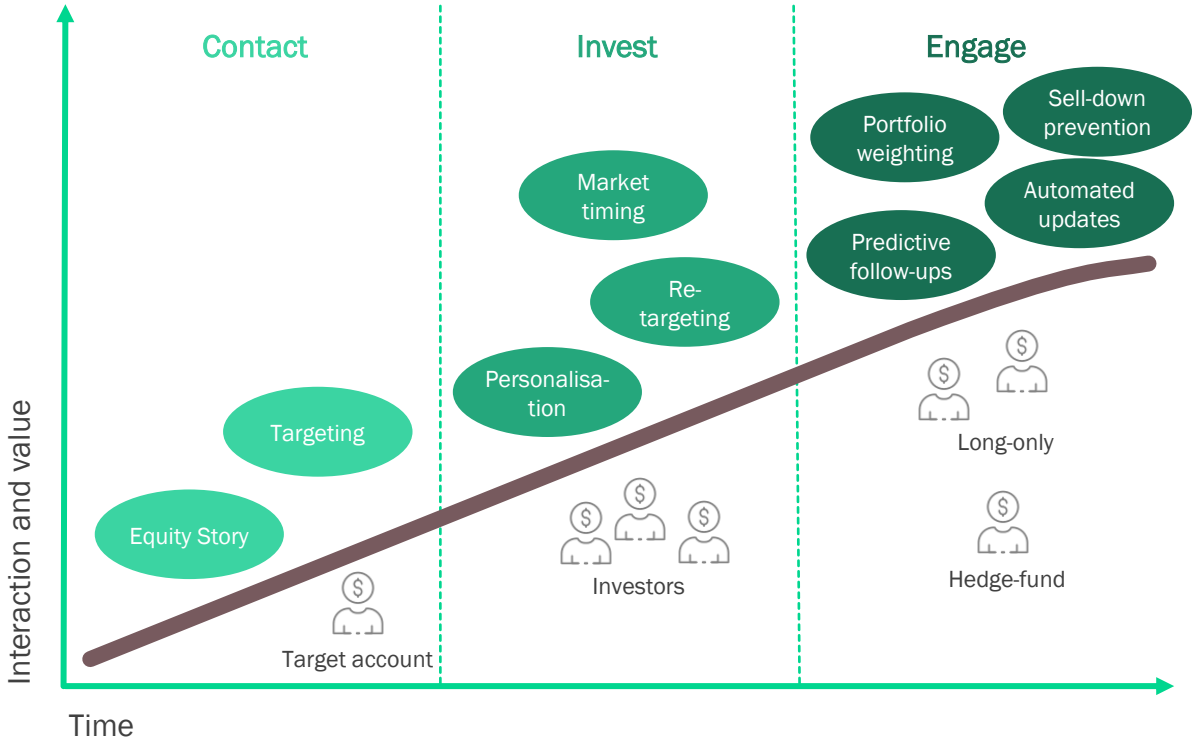
Opportunities: Peer investments



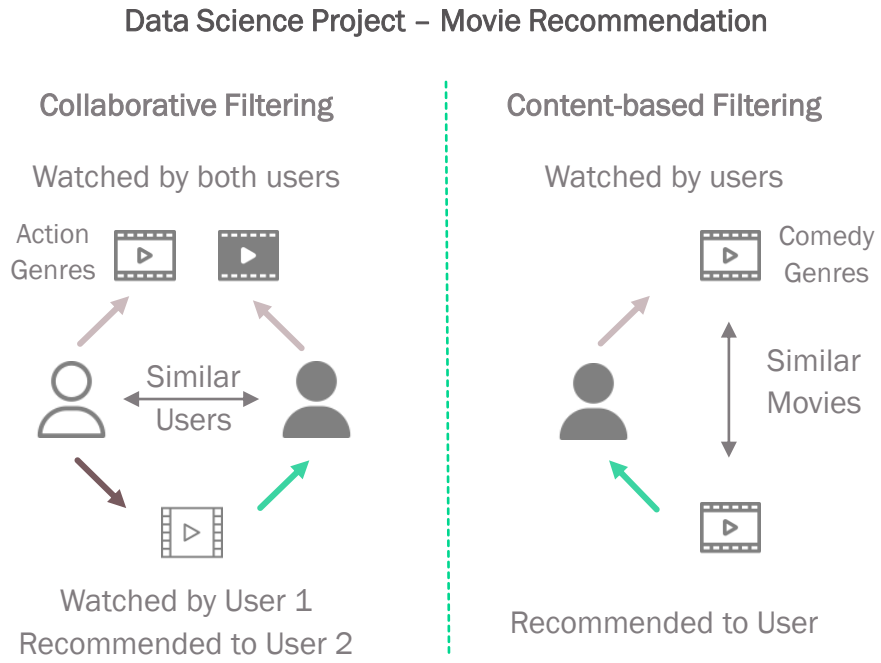
- Solid but imperfect fit
- A lot of noise
- Funds may not be invested for a reason
- Results depend on peer group selection
- Misses out on other investment criteria
- Requires investment in raw data and time

TARGETING AND RECOMMENDATION

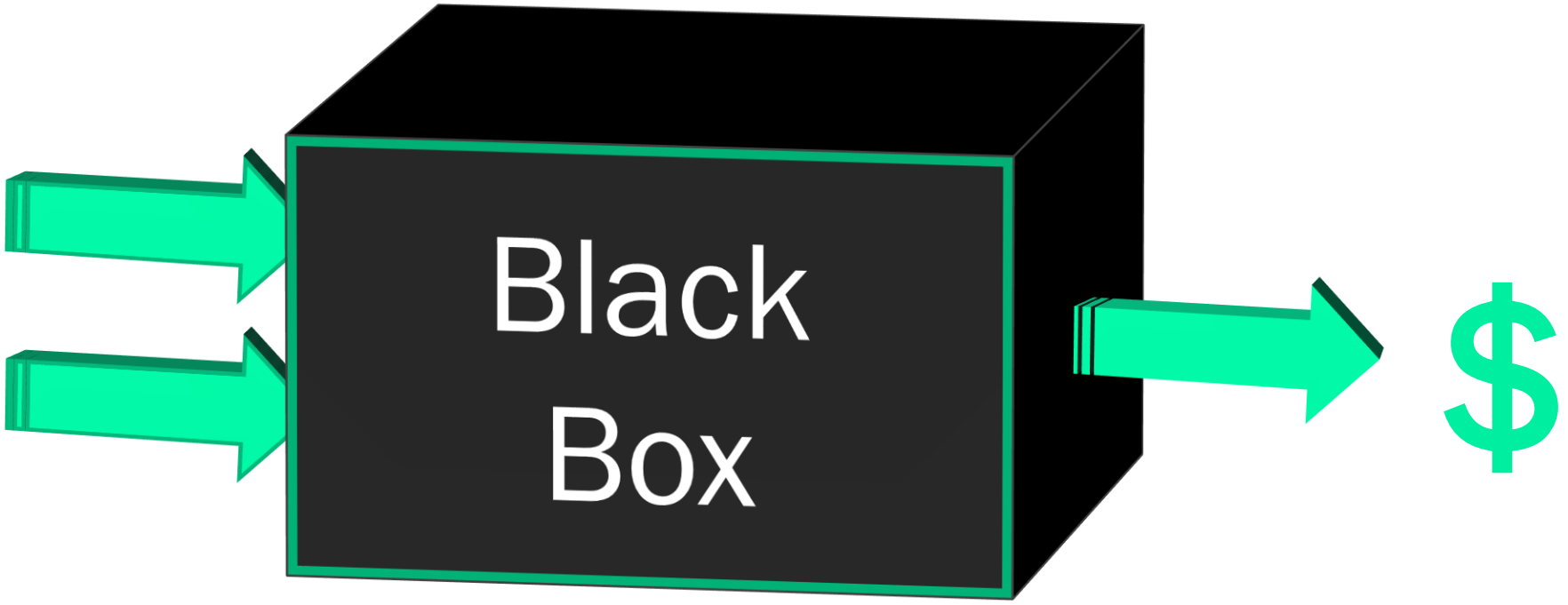
Example B2B Buyer Journey – adapted



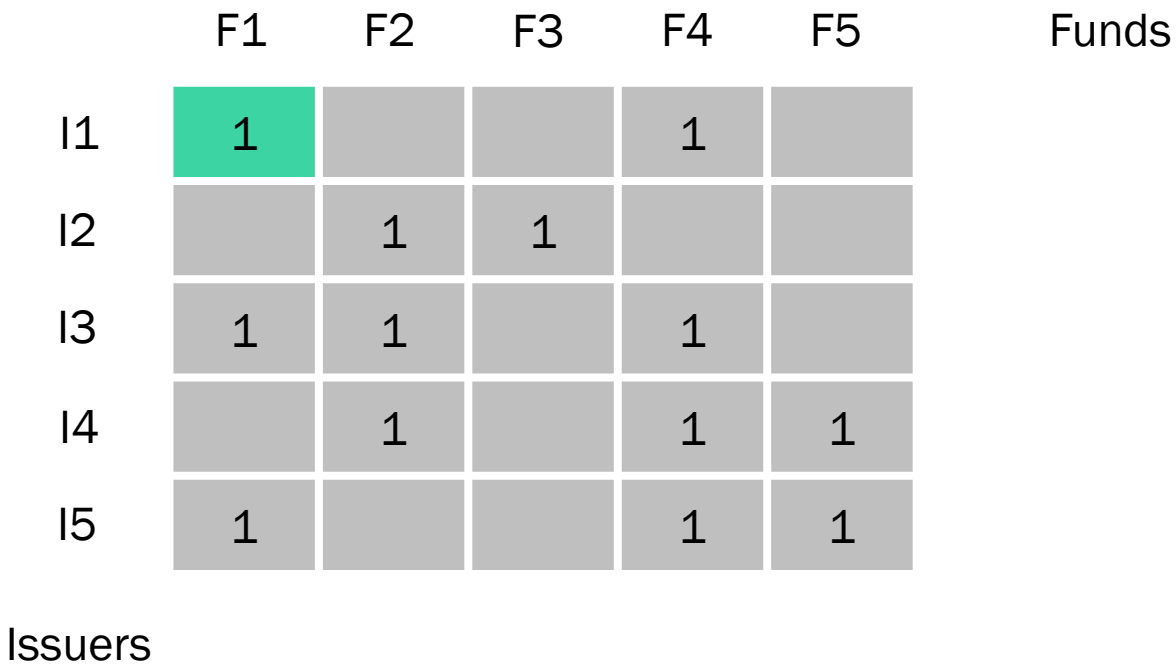
Product Recommendation



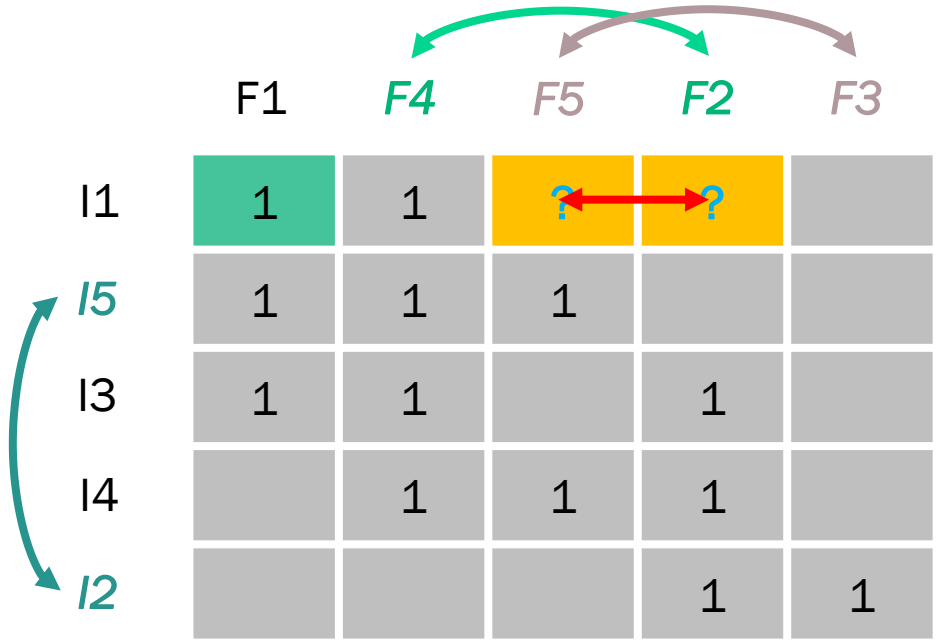
DEMYSTIFICATION OF THE BLACK BOX



APPROACH

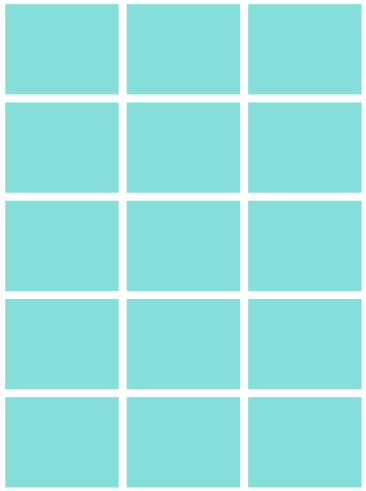


APPROACH – UNSUPERVISED MACHINE LEARNING



APPROACH

Cap Group
Sector
CAGR



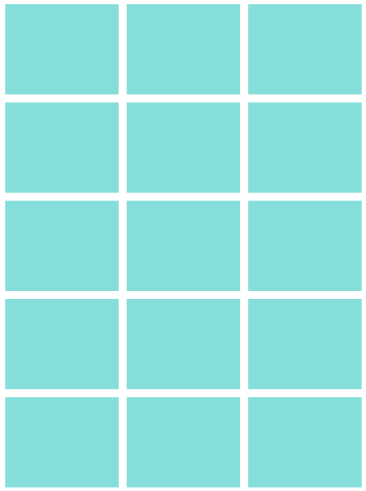
Known
Factors

	F1	F4	F5	F2	F3
I1	1	1			
I5	1	1	1		
I3	1	1		1	
I4		1	1	1	
I2				1	1

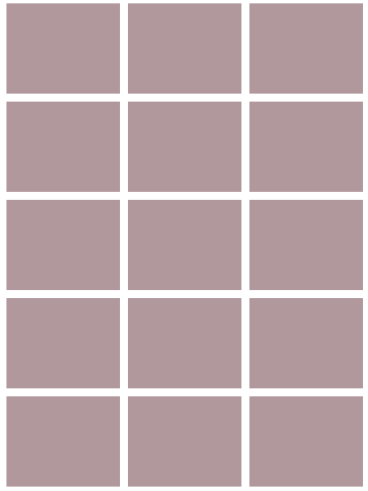
APPROACH

Cap Group
Sector
CAGR

Unknown Factors



Known Factors



Unknown Factors

	F1	*F4*	*F5*	*F2*	*F3*
I1	1	1			
I5	1	1	1		
I3	1	1		1	
I4		1	1	1	
I2				1	1

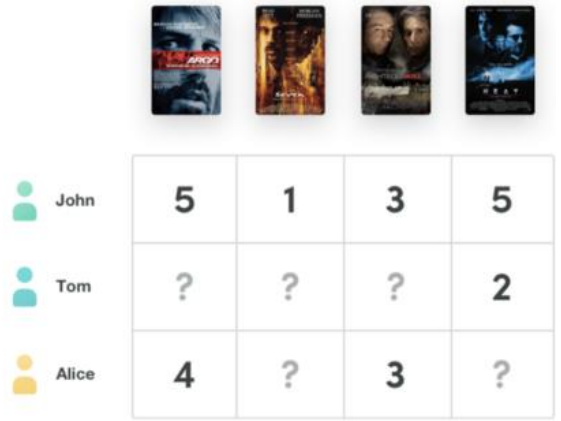
THE CHALLENGES

What is the best match?

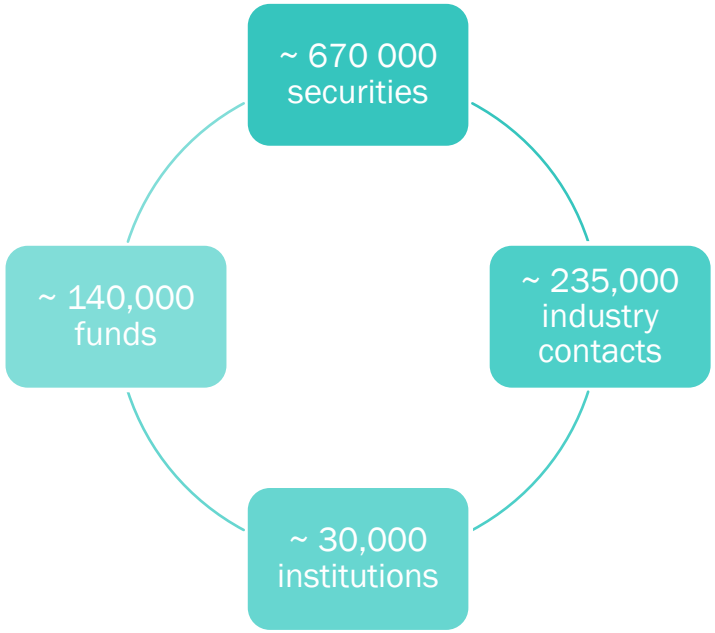
Recommendation Task

Set of users **U** and a set of items **I** to be recommended to the users.

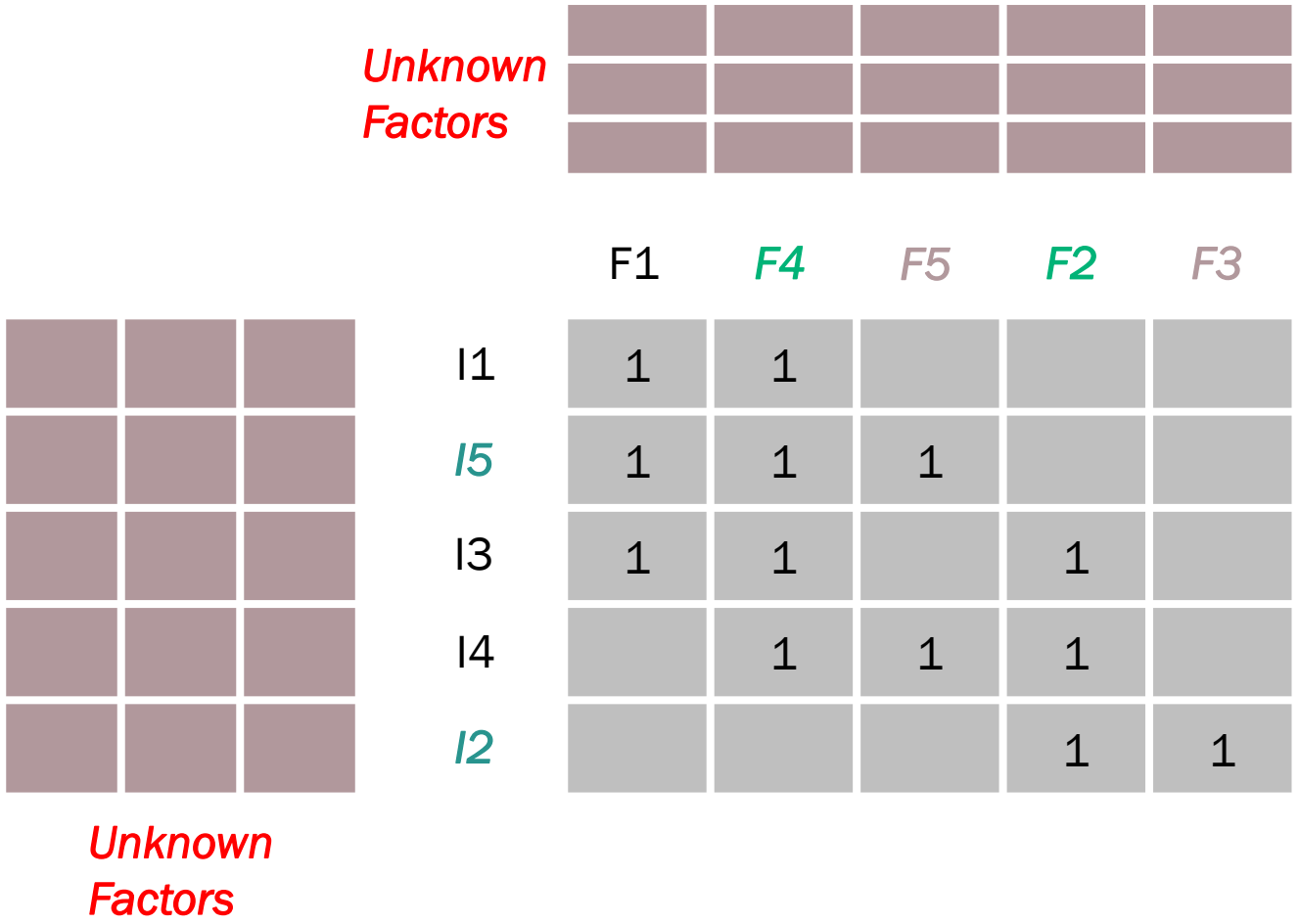
Learn a function based on the past data that predicts utility of each item **i** (∈ **I**) to each user **u** (∈ **U**)



Too much data



MATHEMATICAL APPROACH



MATHEMATICAL APPROACH

Unknown

$$\underset{4\times 2 \text{ matrix}}{\begin{bmatrix} a_{11} & a_{12} \\ \cdot & \cdot \\ a_{31} & a_{32} \\ \cdot & \cdot \end{bmatrix}} \underset{2\times 3 \text{ matrix}}{\begin{bmatrix} \cdot & b_{12} & b_{13} \\ \cdot & b_{22} & b_{23} \end{bmatrix}} = \underset{4\times 3 \text{ matrix}}{\begin{bmatrix} \cdot & c_{12} & c_{13} \\ \cdot & \cdot & \cdot \\ \cdot & c_{32} & c_{33} \\ \cdot & \cdot & \cdot \end{bmatrix}}$$

I3	1	1		1	
I4		1	1	1	
I2				1	1

Unknown Factors

MATHEMATICAL APPROACH – E.G. SINGULAR VALUE DECOMPOSITION

Unknown Factors

	F1	*F4*	*F5*	*F2*	*F3*
I1	1	1			
I5	1	1	1		
I3	1	1		1	
I4		1	1	1	
I2				1	1

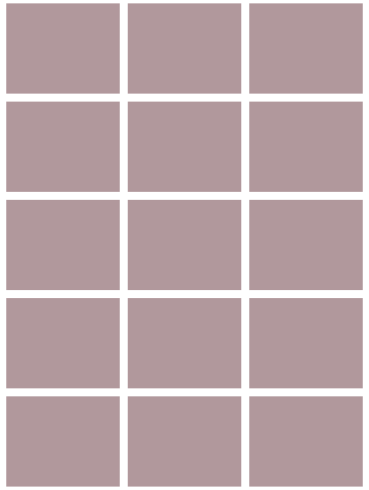
Unknown Factors

Calculation of potential values for unknown factors

MATHEMATICAL APPROACH – E.G. SINGULAR VALUE DECOMPOSITION

Unknown Factors

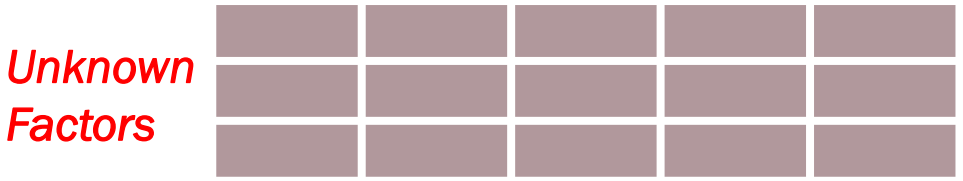
Unknown Factors



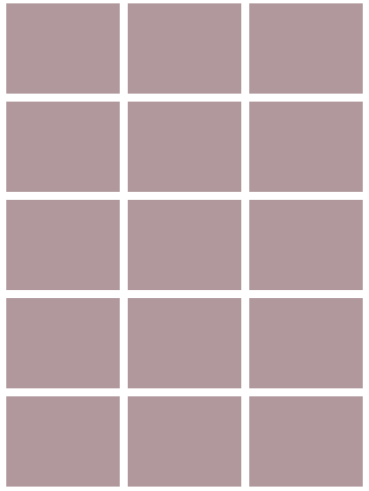
	F1	*F4*	*F5*	*F2*	*F3*
I1	0.95	0.83	0.21	0.78	0.02
I5	0.87	0.93	0.92	0.63	0.11
I3	0.08	0.89	0.87	0.99	0.21
I4	0.41	0.98	0.97	0.92	0.30
I2	0.02	0.01	0.54	0.93	0.99

MATHEMATICAL APPROACH – E.G. SINGULAR VALUE DECOMPOSITION

Unknown Factors



Unknown Factors



	F1	*F4*	*F5*	*F2*	*F3*
I1	0.95	0.83	0.21	0.78	0.02
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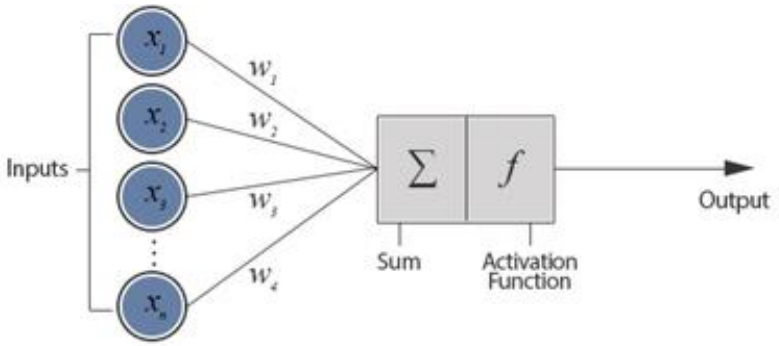
I4	0.41	0.98	0.97	0.92	0.30
I2	0.02	0.01	0.54	0.93	0.99

Verification

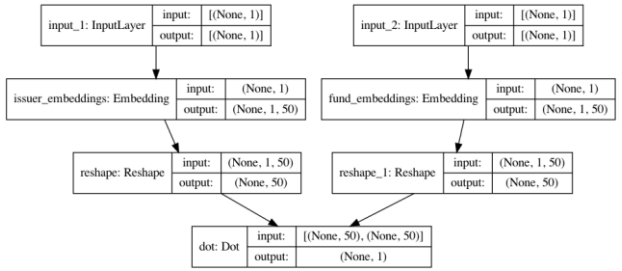
Rank	Fund	Result	Type
1	A	1.00	
2	B	0.98	
3	C	0.96	Pred.
4	D	0.92	
5	E	0.90	Pred.
6	F	0.89	
7	G	0.87	
8	H	0.86	Pred.
9	I	0.84	

EXTENSION WITH NEURAL NETWORKS

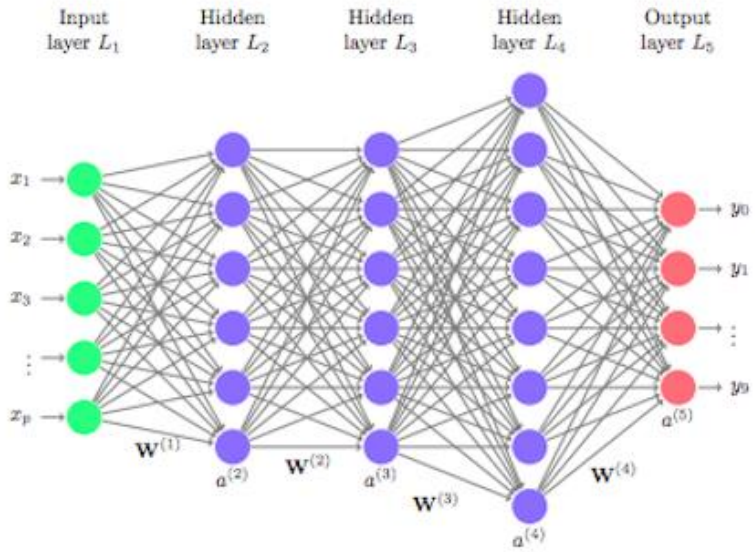
Simple neural network …



… trained to represent arbitrary functions ….



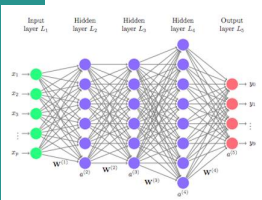
… even multiple ones with Deep Learning



MACHINE LEARNING – INVESTMENT PREDICTION

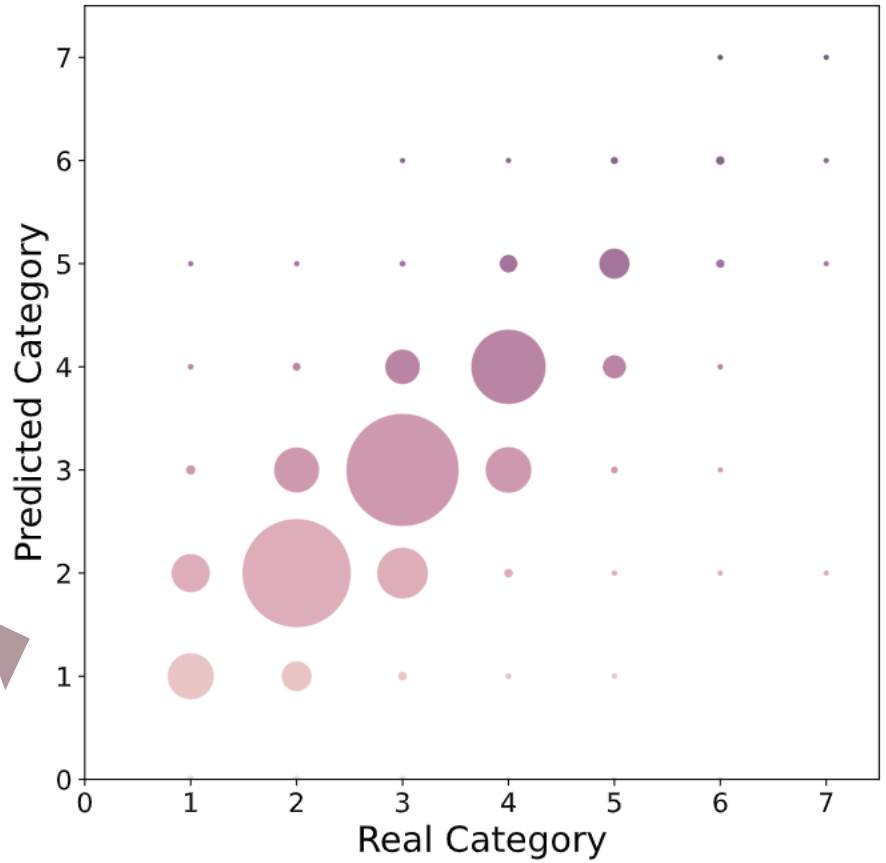
Complete Data

Training Data



Test Data

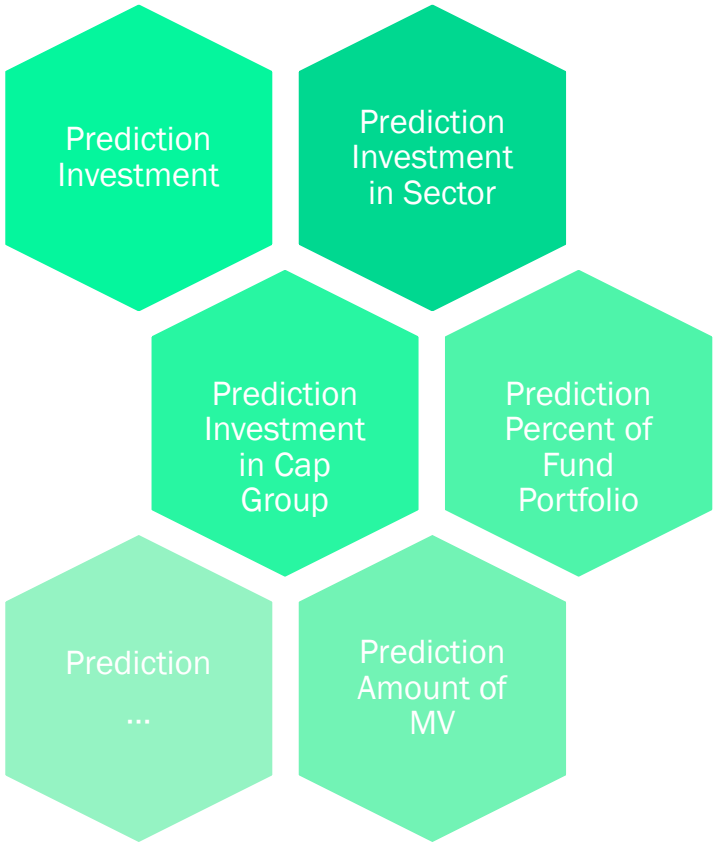
Results for unknown data



Categories (USD):

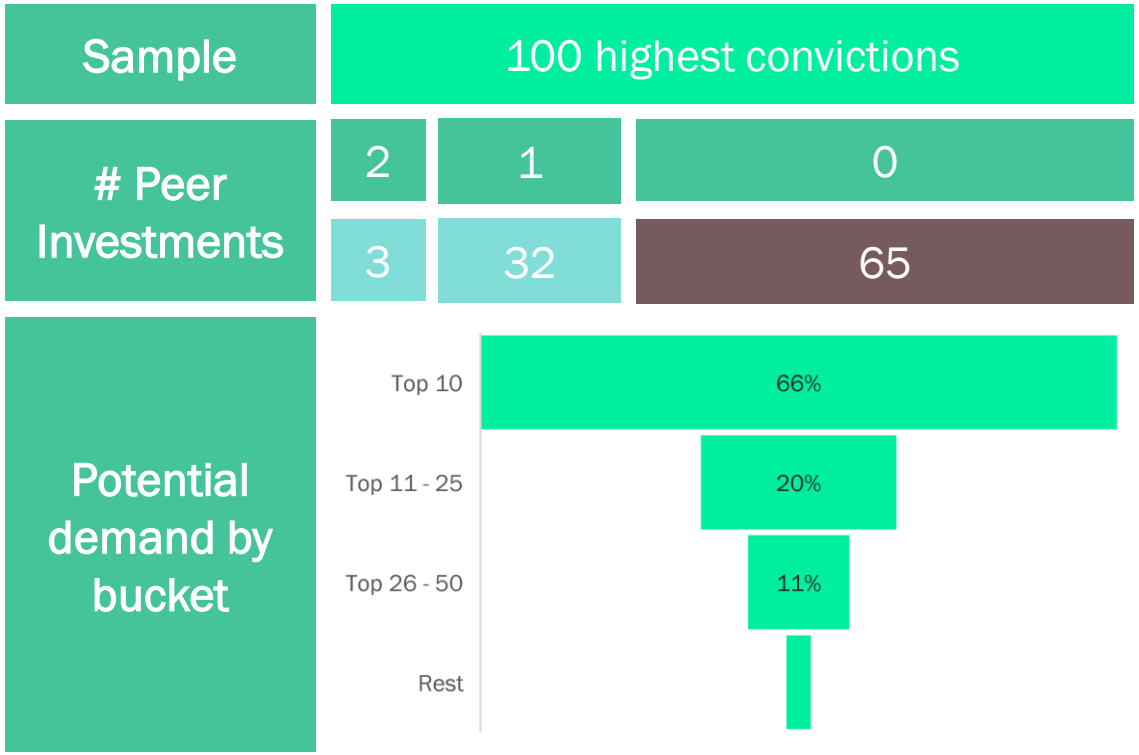
1: 10	> 100k
2: 100k	> 1m
3: 1m	> 10m
4: 10m	> 100m
5: 100m	> 1bn
6: 1bn	> 10bn
7: 10bn	> 100bn

IMPROVEMENT OF RESULTS – COMBINATION OF MULTIPLE MODELS



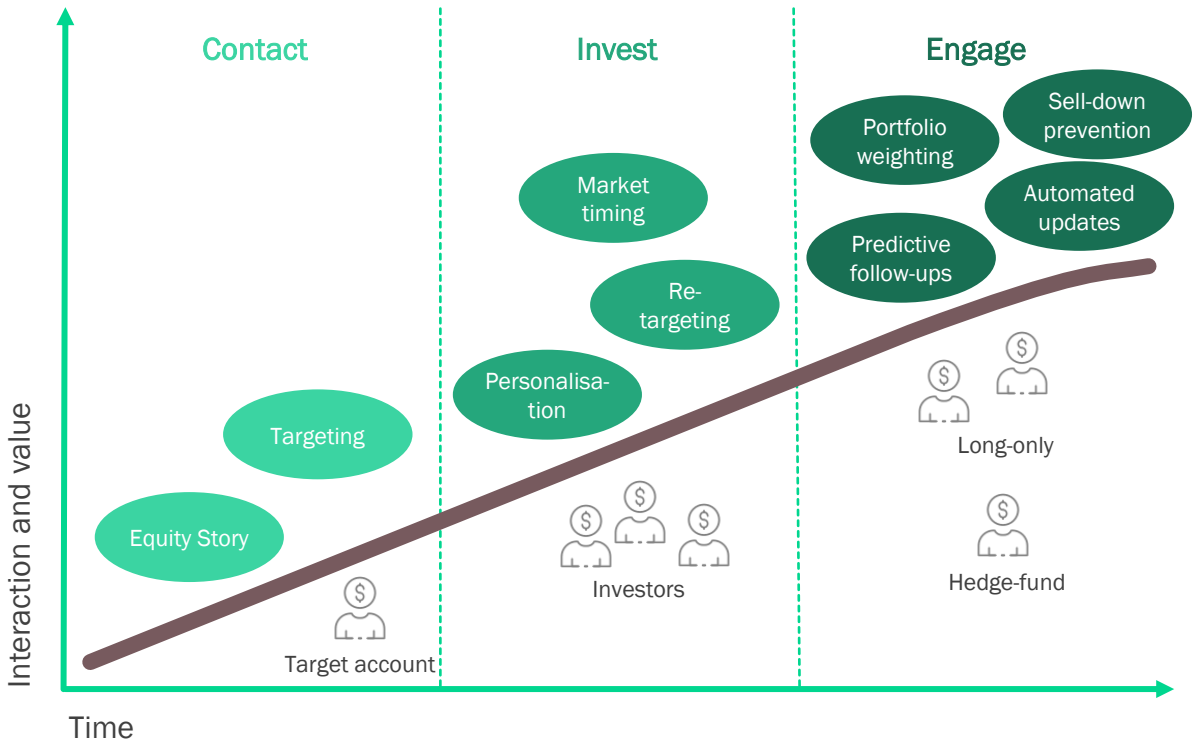
Final Model Ensemble

HOW THE RESULTS COMPARE FOR “EXAMPLE SE”



- 100 clearly identified leads vs. 12,000 lines
- 25 opportunities account for ~ 90% of potential surplus demand
- The algorithm defined a different peer universe based on embedded features
- Targets identified in ms vs. hours manually

WHAT TO DO WITH THE RESULTS



- Knowing and understanding the investor and target base is key
- Targeting is the first important step to expand the potential investor base
- Selecting targets on fund level allows a personalisation of the pitch
- It is the IR manager's choice to
  - Use the results to select and guide the broker
  - Make a direct approach

THANK YOU FOR ATTENDING OUR WORKSHOP

FEEL FREE TO ASK YOUR QUESTIONS