



Augmented Intelligence for Streamlining Business Process Management

MPD 2019

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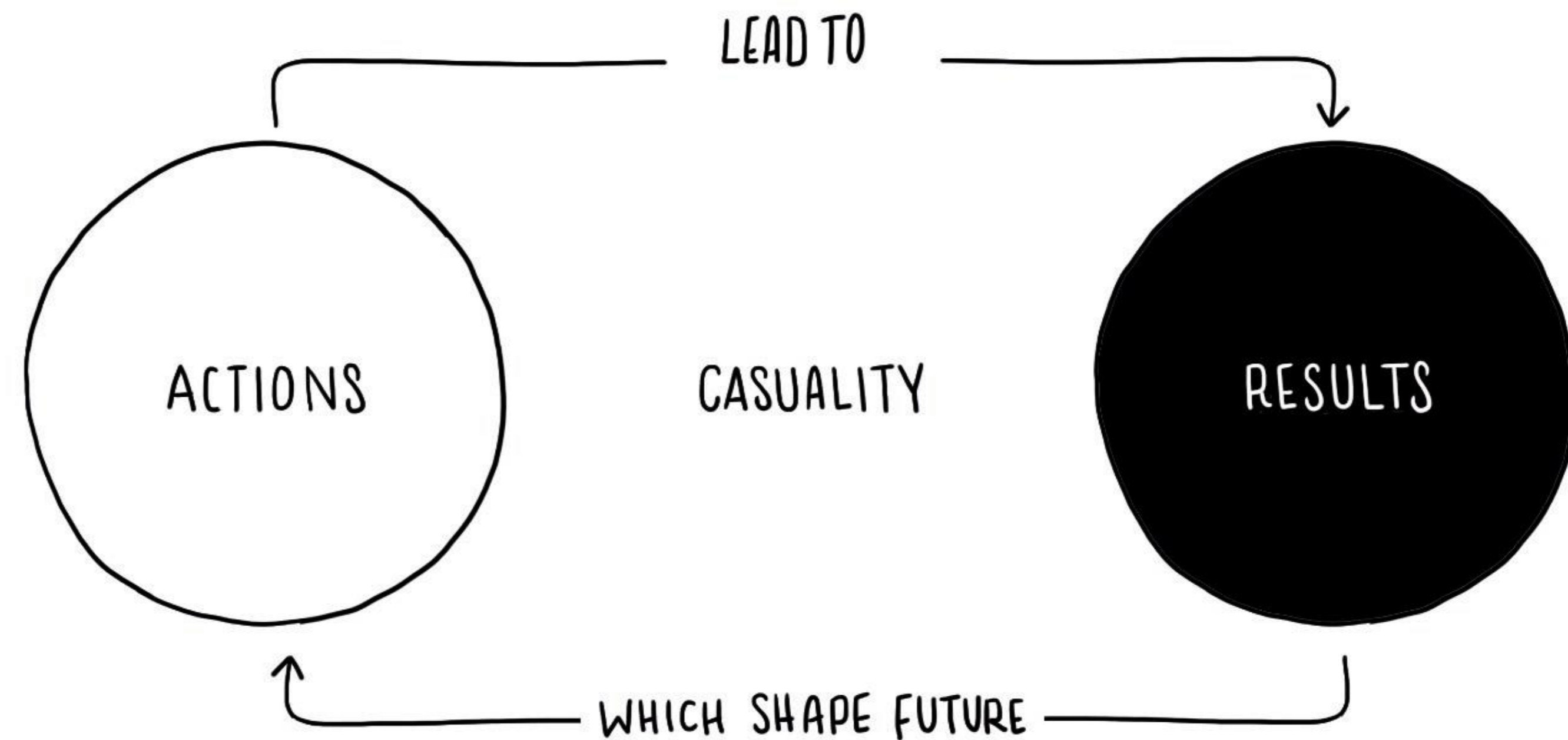
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Data Analytics
Advanced Analytics
Predictive Analytics
Prescriptive Analytics
Big Data
Machine Learning
Data Science
Artificial Intelligence (AI)
Augmented Intelligence (AI)

How do we achieve data-driven culture?

1. Limited time
2. Limited resources
3. Little to no chances to make mistakes
4. Little hope for instant gratification



Source: "Tools for system thinkers" by Leyla Acaroglu, 07/09/2017



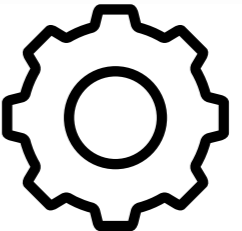
The only three reasons to do AI from the industry perspective



**GROW
BUSINESS**



**INCREASE
PROFITABILITY**



**ADDRESS
UNCERTAINTY**

**If you can measure it,
you can understand it.**

**If you can understand
it, you can alter it.**

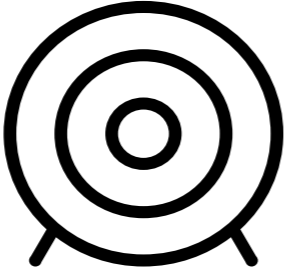
Katherine Neville

AI is the answer, But What is the question??



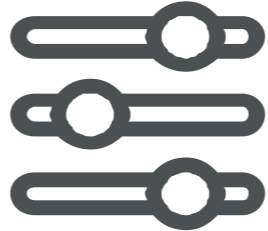
How is everything related to everything else?

Correlation of causation?



What impacts my key performance metrics?

How can I be sure?



What should I change to achieve the targets?

How can I be sure?



What are exceptions to the rules?

Why is that? What are we missing?



Data

- Reader's Guide
- Human Development Index (HDI)
- The 2018 Global Multidimensional Poverty Index (MPI)
- Frequently Asked Questions (FAQs)
- Calculating the Indices
 - 2018 Annex Technical Notes
- Understanding the data
 - Developing regions
 - Principles of international statistics
 - Sources of data used
- Data Application Programming Interface (API)

Human Development Data (1990-2017)

Select data by dimension, indicator, year and/or country to see a dynamic interactive visualization of the data (represented as line for trends, or bar for single years)

Dimension:

-Select-

Go to Indicator Page

Line

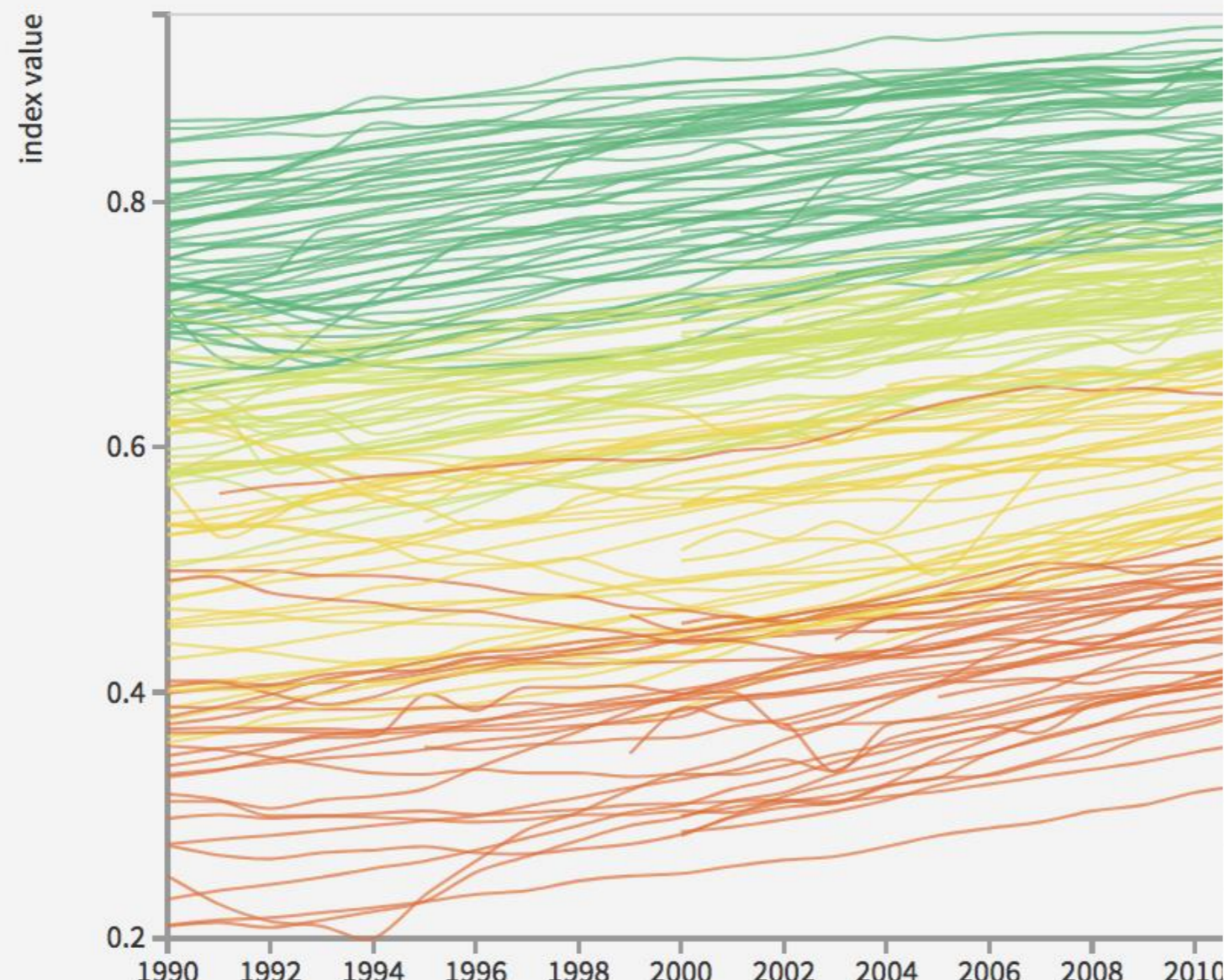
Bar

Clear All

Show All

- Afghanistan
- Albania
- Algeria
- Andorra
- Angola
- Antigua and Barbuda
- Argentina
- Armenia
- Australia
- Austria
- Azerbaijan
- Bahamas
- Bahrain
- Bangladesh
- Barbados
- Belarus
- Belgium
- Belize
- Benin
- Bhutan
- Bolivia (Plurinational State of)
- Bosnia and Herzegovina
- Botswana
- Brazil
- Brunei Darussalam
- Bulgaria

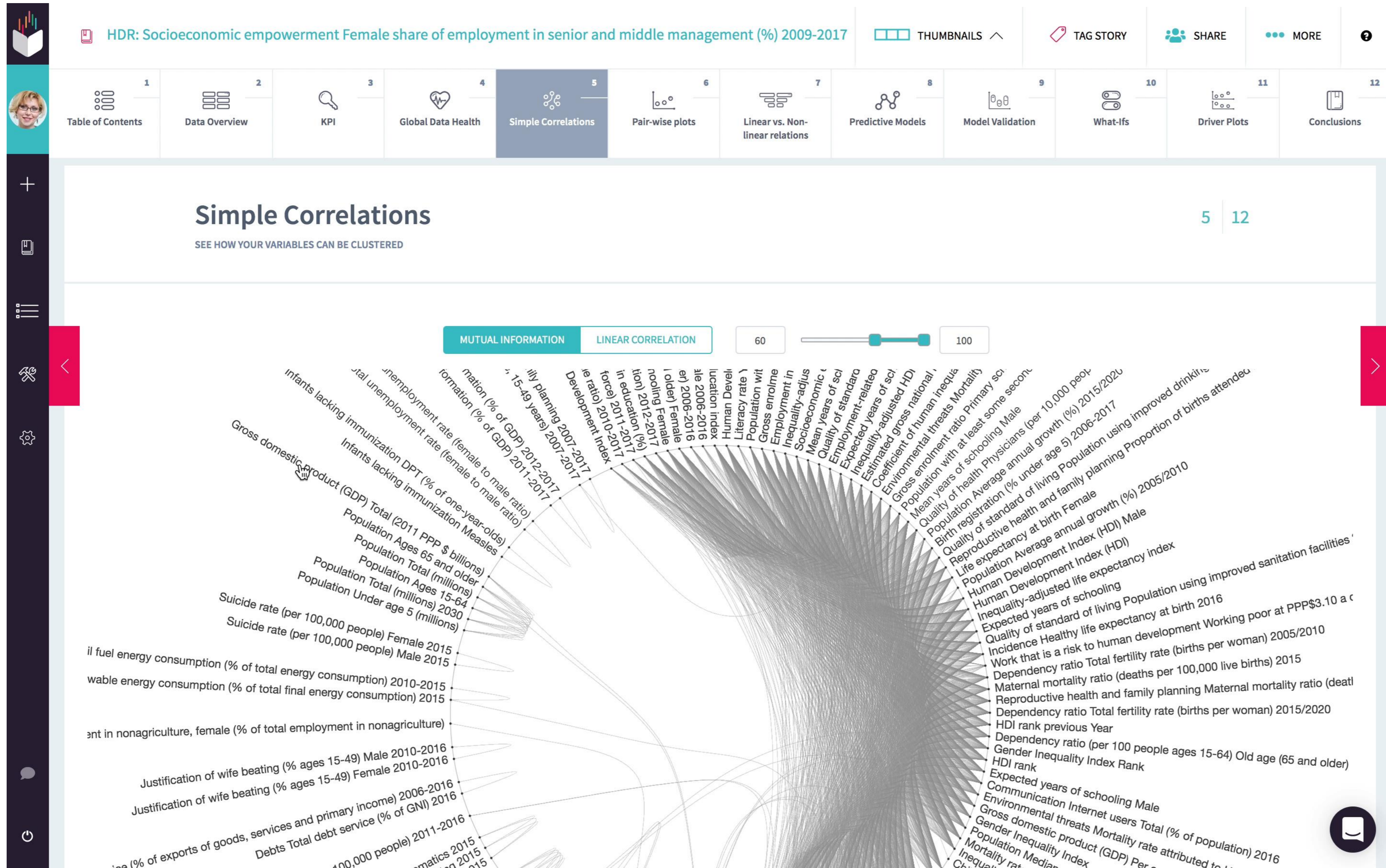
Human development index (HDI)



Microsoft Excel interface showing the ribbon with tabs: Home, Insert, Draw, Page Layout, Formulas, Data, Review, View. The Home tab is active, showing options for Paste, Font, Alignment, Number, Conditional Formatting, Format as Table, Cell Styles, Cells, Editing, and Ideas.

	A	B	C	D	E	F	G	H
1	Country	Year	HDI rank	Human Development	Life expectancy at b	Expected years of schooling	Mean years c	Gross nation
2	Norway	2017	1	0.95252202	82.328	17.85206	12.56682	68012.4929
3	Switzerland	2017	2	0.94399757	83.473	16.20882	13.408	57625.0697
4	Australia	2017	3	0.938631285	83.068	22.92125	12.85504	43560.0577
5	Ireland	2017	4	0.938410059	81.643	19.61374	12.52629	53754.1863
6	Germany	2017	5	0.93604342	81.178	16.95598	14.08202	46135.8475
7	Iceland	2017	6	0.934879252	82.912	19.34788	12.36378	45810.1959
8	Hong Kong, C	2017	7	0.932582914	84.097	16.32567	12.03813	58419.7099
9	Sweden	2017	7	0.932804549	82.625	17.63459695	12.42605	47765.656
10	Singapore	2017	9	0.932041606	83.218	16.2	11.47467	82503.127
11	Netherlands	2017	10	0.930638593	82.005	18.04483	12.19001	47899.7616
12	Denmark	2017	11	0.929474111	80.878	19.06606	12.58779	47918.4917
13	Canada	2017	12	0.925952399	82.541	16.43739864	13.28189	43433.1667
14	United State	2017	13	0.923913589	79.541	16.46821	13.37999	54941.1093
15	United Kingd	2017	14	0.921548922	81.717	17.4429	12.88865	39116.3116
16	Finland	2017	15	0.919652775	81.496	17.6396565	12.43961	41002.2709
17	New Zealand	2017	16	0.916687629	82.038	18.86506	12.503	33969.74
18	Belgium	2017	17	0.916066037	81.303	19.7624	11.78389	42156.3725
19	Liechtensteir	2017	17	0.916082868	80.41	14.72093	12.54846	97335.7496
20	Japan	2017	19	0.909152957	83.908	15.23277	12.75	38986.1545
21	Austria	2017	20	0.907755179	81.77	16.0812	12.1487132	45415.1012
22	Luxembourg	2017	21	0.903938861	81.955	14.01601	12.08015	65016.3269
23	Israel	2017	22	0.903244841	82.664	15.91014	12.95922	32711.3766
24	Korea (Republ	2017	22	0.902561126	82.361	16.49749	12.11633	35944.7095
25	France	2017	24	0.90080244	82.716	16.41595	11.51082	39253.947
26	Slovenia	2017	25	0.896223829	81.116	17.21387	12.22188	30593.9569
27	Spain	2017	26	0.891020216	83.301	17.87704	9.81948	34258.2933
28	Czechia	2017	27	0.887561429	78.877	16.85478	12.74035	30588.3008
29	Italy	2017	28	0.879769445	83.169	16.27219	10.1604	35299.2409
30	Malta	2017	29	0.878186795	81.012	15.89665	11.28811	34395.6469
31	Estonia	2017	30	0.871042039	77.709	16.08842	12.66743	28993.2477
32	Greece	2017	31	0.869934067	81.41	17.25405	10.75089	24648.0969
33	Cyprus	2017	32	0.868784385	80.67	14.57015	12.10394	31567.6881
34	Poland	2017	33	0.865075041	77.77	16.4332	12.29398	26150.4026
35	United Arab	2017	34	0.86275666	77.412	13.64343	10.78	67804.5585
36	Andorra	2017	35	0.857683594	81.663	13.52401627	10.15545	47573.8701
37	Lithuania	2017	35	0.858135145	74.768	16.10477	12.96103	28313.5968
38	Qatar	2017	37	0.855616448	78.331	13.36037	9.80616	116817.978
39	Slovakia	2017	38	0.855200237	76.977	14.96488	12.4525103	29467.3228
40	Brunei Darus	2017	39	0.853266972	77.374	14.46502	9.06	76427.2103

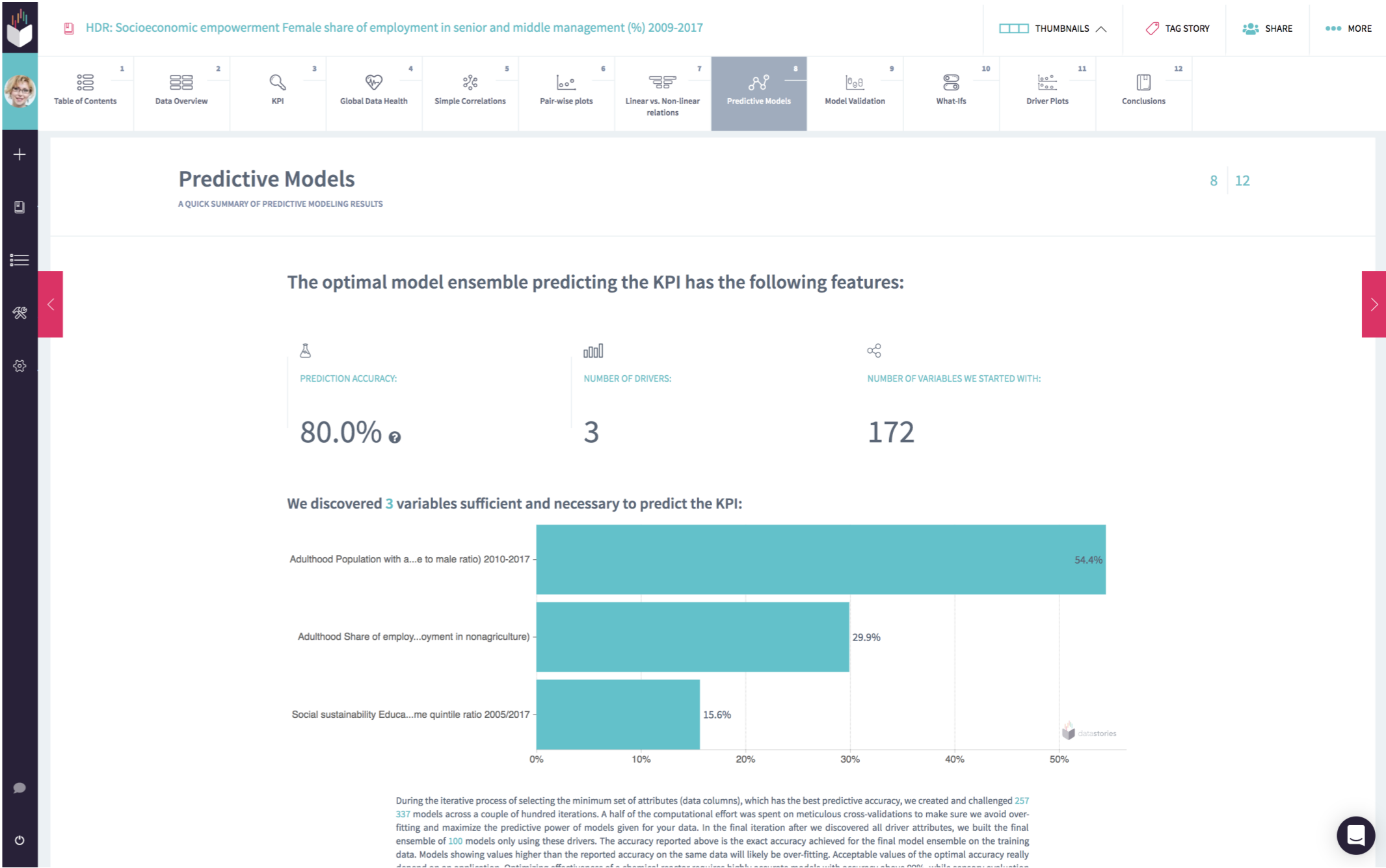
How is everything related to everything else?



What impacts my Key Performance Metric?

Socioeconomic Empowerment: Share of women in senior and middle management %

- 1. Adult population with at least some secondary education 2010-2017, Female to male ratio
- 2. Adult share of employment in non-agriculture, Female (% of total)
- 3. Social sustainability: Income quintile ratio change 2010-2017 (%)



What can I change to improve?

HDR: Socioeconomic empowerment Female share of employment in senior and middle management (%) 2009-2017

THUMBNAILS TAG STORY SHARE MORE

1 Table of Contents 2 Data Overview 3 KPI 4 Global Data Health 5 Simple Correlations 6 Pair-wise plots 7 Linear vs. Non-linear relations 8 Predictive Models 9 Model Validation 10 What-ifs 11 Driver Plots 12 Conclusions

What-ifs

EXPLORE HOW CHANGES IN THE DRIVER ATTRIBUTES IMPACT VALUES OF YOUR KPI

10 | 12

Play with the sliders under the graphs to see how predicted values of your KPI will change if you change the values of the input. The vertical axis of all graphs depicts a range of the KPI values. Horizontal axes are the ranges of the driver attributes. The red dot depicts the current prediction evaluated by the model ensemble when all model inputs are set to slider values. Click **Minimize** and **Maximize** buttons to find optimal values of the sliders leading to the maximal and the minimal predicted values of your KPI.

Socioeconomic empowerment Female share of employment in senior and middle management (%) 2009-2017

Predicted: 35.84
Actual: N/A

↓ C/C++ ↓ Excel ↓ Matlab ↓ py ↓ R

MINIMIZE MAXIMIZE

Importance: 54.4%

Importance: 29.9%

Importance: 15.6%

0.88 55 -1.6

Predicted: 35.84 Actual: N/A



MALTE LOHAN

Orgalim Director General, Europe's Technology Industries

DataStories had the experience and expertise to show us the possibilities of deploying AI in a policy context, as we experimented with generating fresh forward-looking insights, forecasts and predictive models. The aim was to explore how socio-economic indicators are related to each other and to important industrial KPIs – for example understanding the impact of R&D investments on productivity. We look forward to building on this work as we continue to champion smarter policy.



UWE COMBÜCHEN

Director General at CEEMET - European Employer organisation of the metal, engineering and technology-based industries

DataStories has tremendously helped Ceemet, the European tech employers. DataStories comprehend this highly complex matter and have the talent to communicate AI and the potential it holds in a transparent and understandable way. More people with the skills and the attitude of the CEO Katya Vladislavleva and the team would certainly help to increase trust in AI so it can fully unleash its human centric potential in a Europe, that has chosen to underscore the ethical approach to AI, and beyond.



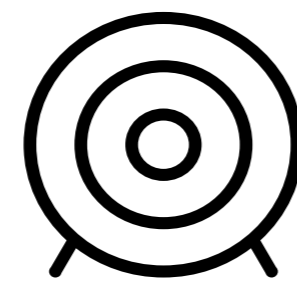
Four questions towards effective human-centric business management

95% of returns on Investment are less than two quarters



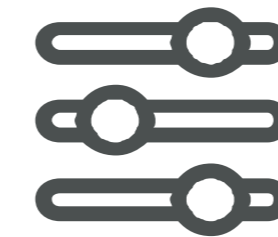
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DataStories Int.

Facilitate data-driven culture with outcome- driven AI

Stories + Sharing

AUGMENT BUSINESS USERS WITH EASY TO USE TOOLS

AUGMENT DATA SCIENTISTS WITH PYTHON LIBRARIES

ENABLE SHARING AND COLLABORATION

ENABLE DEPLOYMENT AND MONITORING

The image features a window with a view of lush greenery and a building. In the foreground, several open books are scattered on a surface, suggesting a study or library environment. The text is overlaid in the center of the image.

**Culture is collective
conversations of your
enterprise**