# HOW DO PEOPLE SEE THE USE OF ARTIFICIAL INTELLIGENCE FOR DECISION-MAKING?

Without a doubt, we are living in the age of information. As a result of technological progress, we have more access to data and information than ever before. For instance, we are all just a click away from information about current stock prices, product sales figures, new companies on the market, patent registrations, and the latest scientific news.

In a perfect world, humans would become more intelligent with every contribution to this enormous amount of information. The constant search for and analysis of information on customers, markets, and competitors gives companies productive ways to discover new business models, entrepreneurial ideas, and product innovations. This can lead organizations to react much more quickly – ultimately a competitive advantage.

Established rules for decision-making are currently being questioned, particularly in companies. Whereas the greatest challenge for decision-makers used to be the scarcity of information, today it is a seemingly unmanageable flood of information. Companies are therefore investing in new analytical software, introducing new knowledge management tools and establishing data science departments to benefit from the ''treasure trove of big data''. Due to technological breakthroughs in computing power and artificial intelligence (AI) in recent years, intelligent algorithms are now increasingly capable of taking over the tasks of human decision-makers, providing an effective means of managing information.

The emergence of algorithm-supported decision-making has produced an additional major challenge. In recent years, scientists have observed that decision-makers reject algorithms that can outperform humans but are potentially flawed. This phenomenon, described as human algorithm aversion, poses major challenges to the economy. It is impelling current research to look for causes and to suggest possible improvements.
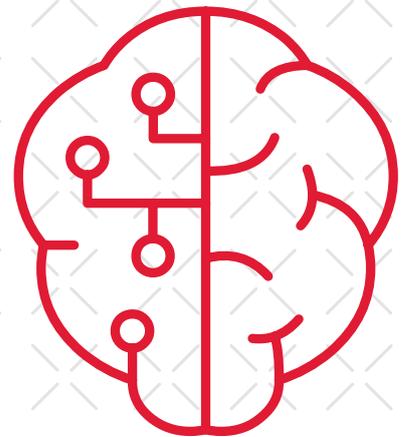
Reasons for rejecting algorithms in decision-making processes:

| Too much self-confidence | No connection | False expectations | No incentives | No control |

WHAT DO WE ALREADY KNOW ABOUT ALGORITHM AVERSION?

Important publications:

2015

Algorithm Aversion: People Erroneously Avoid Algorithms after Seeing Them Err

Dietvorst, Simmons & Massey, 2015

· When people are deciding whether to incorporate human advice or an algorithm into their decision, they more often choose the human advice.
· People have less confidence in algorithmic forecasts, even when they see them outperform a human expert.
· People lose confidence in algorithms more quickly than in other humans even when both make the same mistakes.

2018

Overcoming Algorithm Aversion: People will Use Imperfect Algorithms If They Can (Even Slightly) Modify Them

Dietvorst, Simmons & Massey, 2018

· People chose an imperfect algorithm more often when they can modify its forecasts.
· Giving people the freedom to modify an imperfect algorithm makes them feel more satisfied with the process and produces better results.
· The extent of the control is irrelevant as long as people have the feeling they can take action.

2019

Algorithm Appreciation: People Prefer Algorithmic to Human Judgment

Logg, Minson & Moore, 2019

· Experienced professionals who make forecasts on a regular basis rely less on algorithmic advice than lay people do.
· Lay people adhere more to advice when they think it comes from an algorithm than from a person.
· However, algorithm appreciation wanes when people can choose between an algorithm's estimate and their own.

2020

Watch Me Improve – Algorithm Aversion and Demonstrating the Ability to Learn

Berger, Adam, Rühr & Benlian, 2020

· There is no difference in people's trust in unfamiliar human versus algorithmic advisors, but there are differences in their reliance on familiar human and algorithmic advisors.
· However, if an algorithm learns from its errors over time, trust can be restored.

STAY TUNED! ❯ UPCOMING STUDY

Which strategies are most effective in achieving and maintaining trust in AI-based decision systems?

We investigate this question by means of an experimental design in spring 2021.

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