

Use of AI in Aker BP

Status and reflections around AI and HF

Aker BPs vision



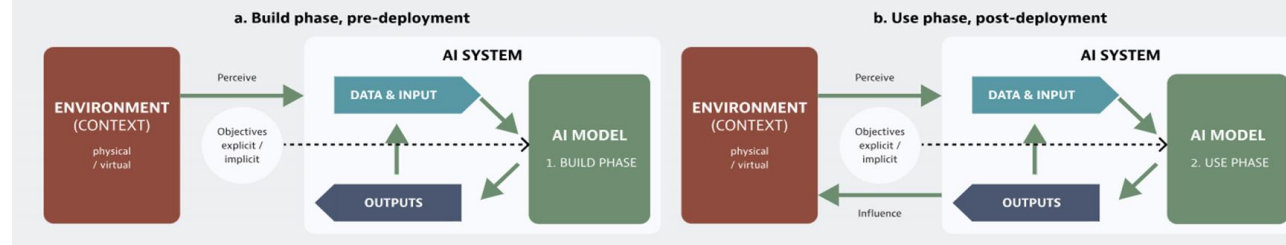
The misconceptions of data science

- The “can solve everything” perception associated with data science
- The belief that all analytics are created equal, and all data analysts are created equal
- The idea that if there is data, there are insights to be found
- The notion that digital transformation is about digitalising data and implementing tools
- The assumption that the traditional cost versus speed versus quality trade-off applies to data science
- The idea that data democratisation is about rights but not responsibilities

Source: Camilo Zapata (2023), «Data science and the Human Factor».

AIs (current) abilities and limitations

An AI system is a machine-based system that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments. Different AI systems vary in their levels of autonomy and adaptiveness after deployment.



[AI-Principles Overview - OECD.AI](#)

- Generative AI is good at generating content like text, images, sound; generating content summaries, generating code, suggesting ideas
- Good at managing massive data quantities to achieve pattern recognition, prediction, optimisation, decision making (support)
- Generative AI is not the best if the goal requires high accuracy or repeatability; like outcome of a coin flip, outcome of a unique or chaotic system or distinguishing between minute differences
- Generative AI is not good at adaptability, morality and ethics, transparency and visibility, learning from one-off data

Our AI strategy

Data science and AI - AkerBP DIGipedia

Nature of information

- **Creative** decisions with no clear right or wrong answer
- **Easily verifiable** decisions where the underlying information is clearly right or wrong, where the veracity of the information is easy to assess, AND where the outcome of the decision is strongly predictable.
- **Complex** decision where the underlying information is not clearly right or wrong OR where the outcome of the decision is uncertain.

Impact / Consequence

no to little impact through medium impact to high impact

- Use generative AI when:
 - The answer is generally available, but potentially difficult to find and
 - It is easy to verify the answer and
 - When the dataset can be controlled (i.e. we control and know the data the AI uses is context sensitive and professional, and we protect the system from security threats)

Fei-Fei Li's North Star

- Is something missing from our AI strategy?

- From Fei-Fei Li's "The worlds I see":

«The next North star (is) reimagining AI from the ground up as a human-centred practice»

[The human factor and its surprising impact on digitalization - Atos](#)

- The human factors often go unaddressed in the implementation of digital technology and solutions

AI from a HF perspective: Endsley's stance on AI

Situation awareness (SA):

- Designing for SA means ensuring that the necessary information is obtained by the system and presented in a way that makes it easily processed by the system users who can have many competing pieces of information contending for their attention.
- Designing for situational awareness will be applicable for digital tools such as AI, and existing Human Factors (HF) methods can be used.
- Lessons from Endsley:
 - In a safety critical setting, the company must understand the limitations of the system
 - It will take a lot of development and testing before we get there
 - AI should be used for what it is good at, for example pattern recognition
 - ***AI should not be used in a safety-critical setting***

5 ironies of automation:

- First irony: AI is not that intelligent; it is limited by its database
- Second irony: People find AI difficult to understand – the more advanced, the less easy to understand – even the experts don't know how it works
- Third irony: Low SA and low monitoring skills means people have to struggle to control the system
- Fourth irony: The more intelligent the AI is, the more obscure, and the less able humans are at understanding what the AI's limitations are
- Fifth irony: As AI becomes more common and “natural”, people are even less likely to understand limitations of the system. If AI does not have information, it makes things up

Is AI just the next step in automation?

- The paradox of automation, at its core, is the notion that **the more efficient an automated system becomes, the more crucial the human role becomes**. This is because highly automated systems still require human oversight to handle unexpected situations or errors which the automation system isn't programmed to deal with.
- Bainbridge, 1983
- If yes, can we use Human Factors as a discipline to ensure safe implementation of AI:
 - Use the Fitt's list: Allocation of tasks between human and systems (machines)?
 - Use AI as a decision-making support tool?
 - Use Human Readiness Levels and HF processes to ensure safe AI implementation?
- In the process of updating our management system to ensure Human Factors are included also in digital projects



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