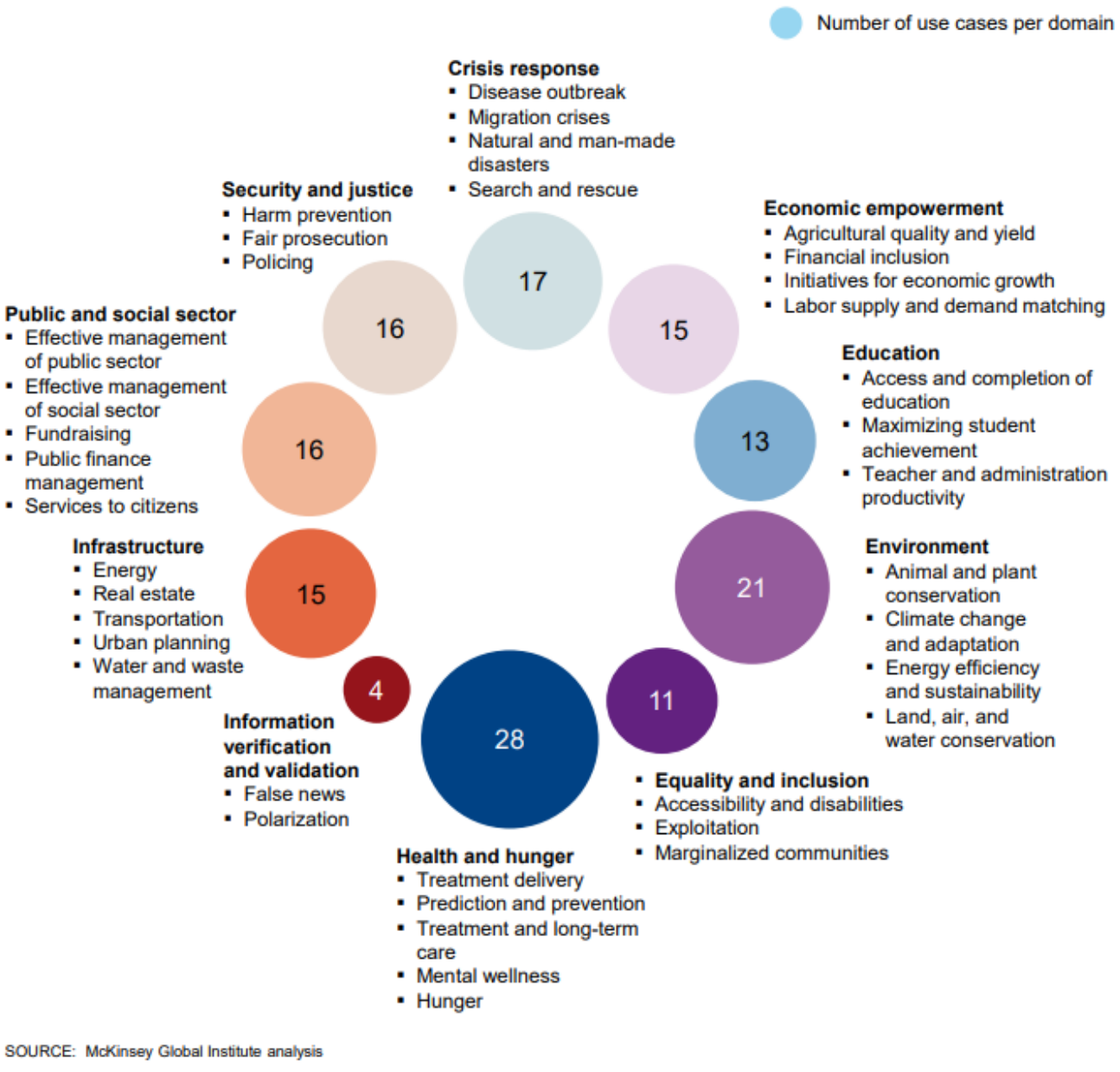
AI use cases – broad applicability

I recently read a paper from the Mckinsey global institute, titled “NOTES FROM THE AI FRONTIER, APPLYING AI FOR SOCIAL GOOD”. (Linked below)

The paper defines AI as “Deep Learning” for the purpose of categorization on this particular research. While the definition can be debated, the topic at hand is about the ability to alleviate human suffering, even a bit, using these emerging and growing technologies.



The paper covers potential uses of AI, as well as applied examples, as diverse as AI on satellite maps to predict progression of fires and optimizing responses to managing wildlife poaching monitoring & responses.

Several AI capabilities, primarily in the categories of computer vision and natural language

> processing, are especially applicable to a wide range of societal challenges. As in the commercial sector, these capabilities are good at **recognizing patterns from the types of data** they use, particularly unstructured data rich in information, such as images, video, and text, and they are particularly effective at **completing classification and prediction tasks**. Structured deep learning, which applies deep learning techniques
> to traditional tabular data, is a third AI capability that has broad potential uses for social good. Deep learning applied to structured data can provide advantages over other analytical techniques because it can automate basic feature engineering and can be applied despite lower levels of domain expertise.
>
> MCKINSEY GLOBAL INSTITUTE ANALYSIS (LINKED BELOW)

I think of this applicability in farming and agriculture planning, predicting yields and recommending crop rotation patterns, fertilization based on yield, soil composition, long range forecasting, past local yield data and more. This is something that is completely inaccessible to the general subsistence farmer, but parts of which are regularly employed on larger commercial farming operations in the United States as well as elsewhere. I use this as one example but the potential is amazingly broad.

The challenge lies in bringing these innovative ideas to those who can benefit from them, but who cannot afford to participate in the process as a driver, or sponsor. I am intrigued by the idea of building a collaborative relationship with people living close to the land, directly benefiting from the applicability of these use cases. I picture a supervised learning model, with the on site team being the local populations of the target environments, trained to provide feedback and exploit the findings. The people involved would then collaborate to provide rich on site data, backing up, or reinforcing the model learnings to make it even more capable, backed by the real world data. This is an approach that has boundaries, of course, but would help provide value to a machine learning process, while improving quality of life and as importantly, ensuring that those on the receiving end of this are both the people on the ground and also the technology sponsors – **pride in work, means ownership of progress**. This is a crucial element in helping others, and in my opinion too often lost in simple “aid package” approaches.

Source Paper from Mckinsey:
https://www.mckinsey.com/~/media/mckinsey/featured%20insights/artificial%20intelligence/applying%20artificial%20intelligence%20for%20social%20good/mgi-applying-ai-for-social-good-discussion-paper-dec-2018.ashx

Also linked from my blog in case the main link is removed, but please visit Mckinsey for the original and a great post on the topic.