FACT SHEET

ARTIFICIAL INTELLIGENCE (AI)

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ATTRIBUTES OF HUMAN INTELLIGENCE

The Essence: AI describes machines which display a varying degree of cognitive functions associated with the human mind: learning, analysis, problem solving, etc.

Characteristics: AI is commonly split into three categories: 1. *Machine Learning (ML)*: computer algorithms which improve automatically through experience, 2. *Natural Language Processing (NLP)*: interactions between computers and human languages where large amounts of NL data are processed and analyzed, 3. *Robotics*: machines that can substitute humans and replicate human actions. Few technologies have so many misperceptions associated with them as AI. Not inly in terms of naming ("everything" is labelled AI these days) and actual features, but also unreasonable expectations by the public and enterprises at large. ML, NLP and Robotics have the potential to do great things, and new applications are found literally by the day. But AI in general *requires good governance* to deliver added value, and *high-quality inputs* to yield the desired results.

Business value: AI has in general huge potential in adding business value, if defined properly and aligned with business objectives. ML may produce high-quality information to guide better decisions. NLP may save costs and improve brand equity. Robotics may increase productivity and reduce risk. Value generation from AI is highly context specific.

Concerns: There are concerns related to the potential that certain AI technologies will at some point expand and self-develop a total and non-reversible autonomy. By any measure, the present AI technologies are said by experts to be decades away from reaching such a level of sophistication. Though not conclusive yet, there are technical, legal and ethical on-going discussions about how to prevent such scenarios.

Successful implementations: Plentiful – and growing by the day. ML in medical diagnostics, market analysis and risk assessments. NLP in real-time translations, employee voice-based assistance and voice-controlled applications. Robotics in prosthetics, precision manufacturing and high-risk environments.

Hot tip: AI technologies may or may not represent heavy investments these days. But more so than any other technology, a proper business analysis is required to find the right application and ensure ROI. These are definitely technologies where performance may not deliver according to expectations if not analyzed, designed, implemented and maintained correctly.