Frigör möjligheterna och stå beredd för utmaningarna i den nya AI eran

Anna Felländer, mars 2018
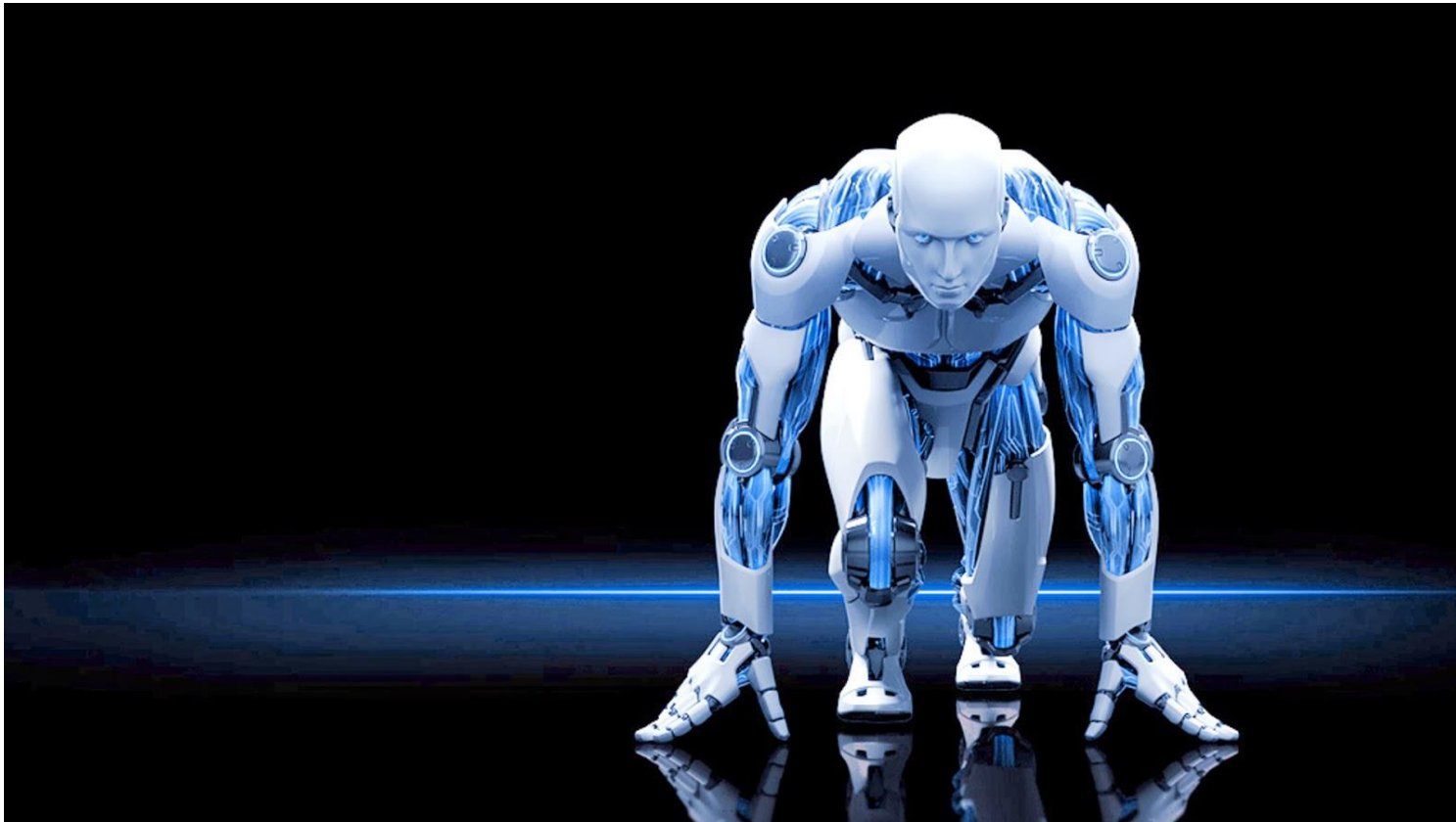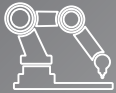
1. **Låg mognad**
2. **Utbredd användning**
3. **Korsbefruktning**
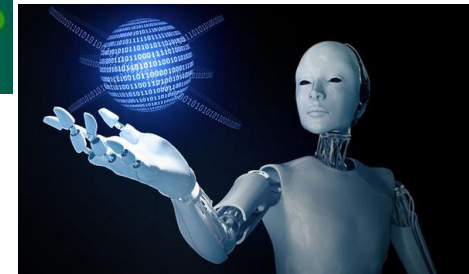
Produktivitets paradoxen

MIS
MEASUREMENT

IMPLEMENTATION
LAGG

FALSE HOPES

POLARISATION

Tredje vågen: Korsbefruktning av mogna teknologier

3D PRINTING	**INTERNET OF THING**	**NEW INTERACTION MODELS**	**AUTONOMOUS ROBOTS**	**SCALABILITY**
NEW FORM FACTORS	**MOBIL & SOCIAL**	**BIG DATA & ANALYSIS**	**GAMIFICATION**	**POWER OF THE ECO SYSTEM**
ARTIFICIELL INTELLIGENS	**AUGMENTED REALITY**	**CLOUD**	**INSTANT DELIVERY**	**PLATFORMS FOR WEB SHOPS**
DEMOCRATISING OF DATA	**CROWDSOURCING-ECONOMY**	**VIRTUAL REALITY**	**PARTNERSHIP FOR SUCCESS**	**'UBER-ENTREPRENEUR'**

Paradigmskifte till följd av AI: minskade kostnader för förutsägelser

PROCESSING POWER
AND DATA

EMERGING
AI CAPABILITIES

SAMPLE AI
APPLICATIONS

Human language

Natural language processing
Speech recognition

ACTION IN THE
REAL WORLD

Artificial Intelligence

Computer vision

Pattern recognition
Real-world mobility

ACTION IN THE
DATA WORLD

Real time sensor data

IoT, predictive maintenance

Online behavior

Recommendations and micro-targeting

Structured system data

Advanced/ predictive analytics

TIME

Data & AI – den nya valutan med stora "first mover advantages"

A spiral of Data & AI
first mover advantages

High entry barriers and monopoly situation

Better offering – more customers – more data

Better talent – Better AI – better offering

Better AI – attracting analytics talent

More customers – more data – better AI

The better offer – more customers

The better AI – the better offer

The more data – the better AI
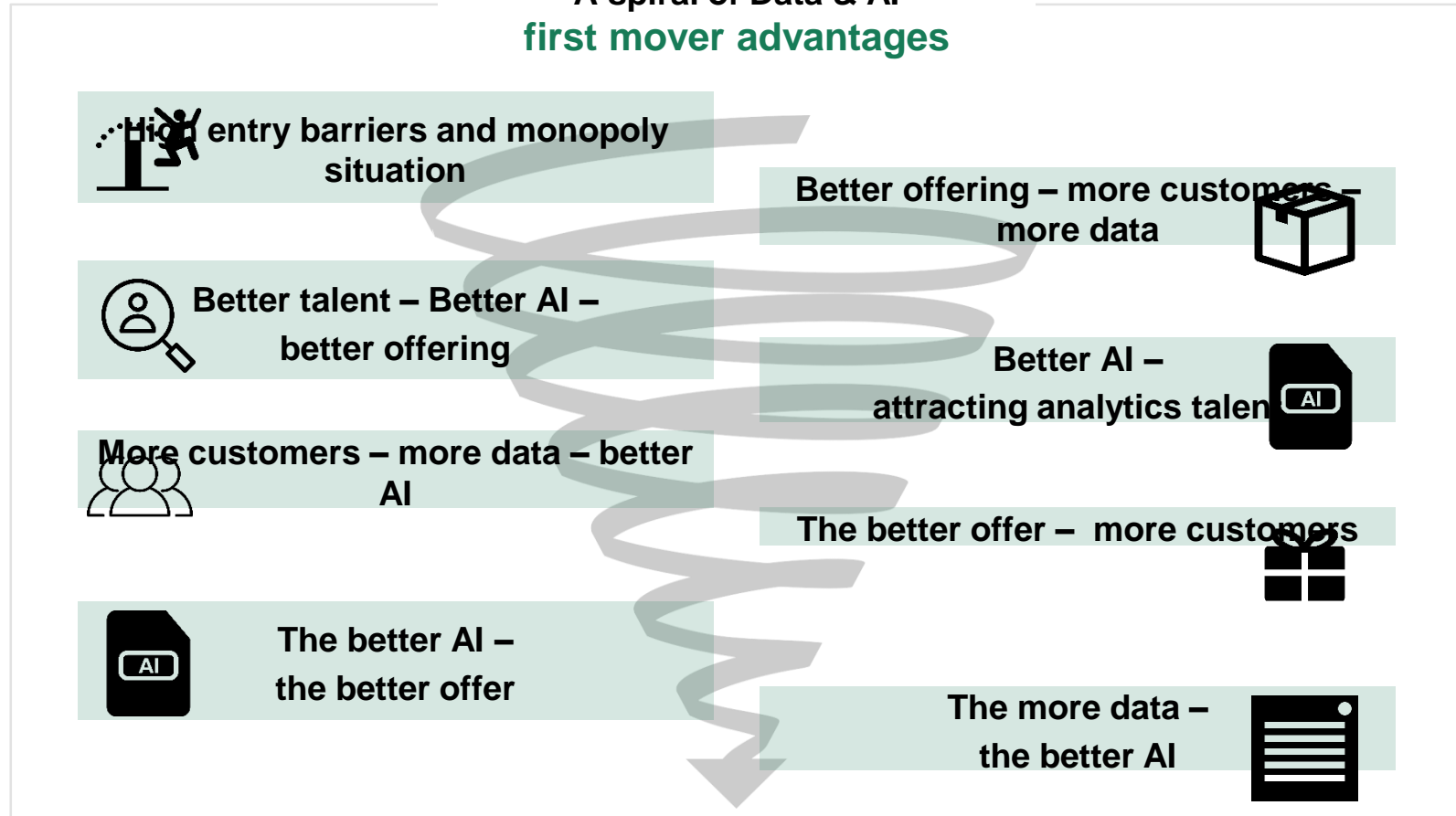
GDPR - möjligheter och utmaningar för AI

- **Samtycke**

- **Rätten att bli glömd**

- **Data portabilitet**

- **Algoritm transparens "rätten till förklaring"**
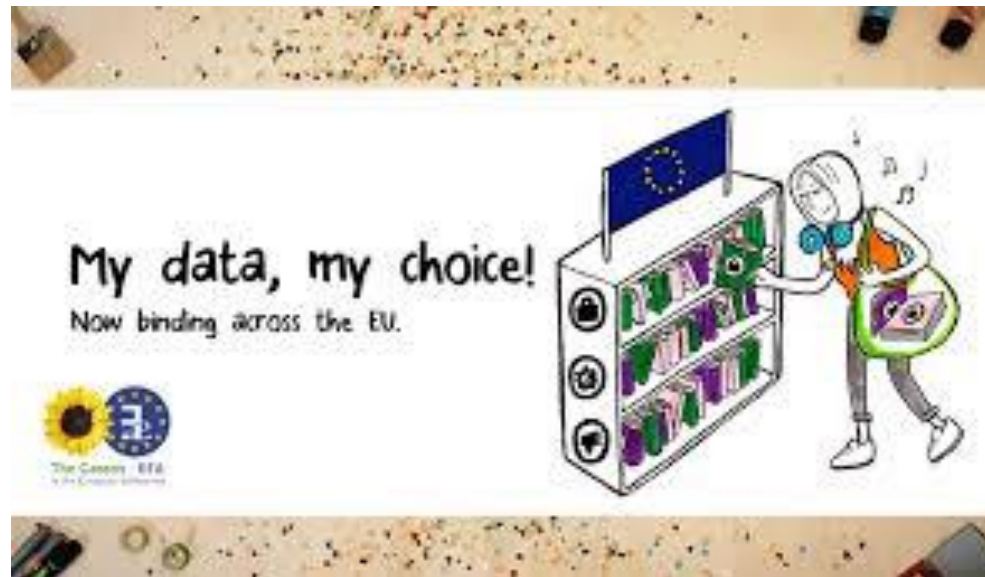
Företagsledare och AI: Låg riskmedvetenhet och kunskapsgap

MIT just released a rigorous study on AI

MITSloan Management Review

Study conducted **by MIT in partnership with BCG** providing **insights into AI maturity levels among organizations** and what they need to do in order to **develop an AI strategy**

Based on **rigorous collection** and **analysis of data**
- Global **survey** of >**3,000 executives**, managers and analysts across industries
- Complemented with **30 in-depth interviews** with technology experts and executives

Results revealing low risk awareness and knowledge gaps in organizations

1 Many believe in the future of AI, yet **few have a concrete strategy for how to get there or govern it**

2 Managers **lacking intuitive understanding of AI**

3 Executives **underestimate the security, organizational & technological capability gaps**

4 **Very few** organizations with **strong data governance practices**

Etiska principer behöver översättas till AI ramverket - AI skiljer sig från andra data drivna digitala initiativ

Global leaders agree: Data & AI set to be new currency

"In the **past a lot of CEOs wished** they had started **thinking sooner about their Internet Strategy**. **In five years** from now it will be the **same for AI**"
Andrew Nig, Chief Scientist at Baidu

"It's **hard to overstate how big an impact [AI is] going to have** on society"
Jeff Bezos, Founder & CEO of amazon.com

"We will evolve from a mobile first to an **AI first world**"
Sundar Pichai, CEO of Google

"In five years, there's no doubt in my mind that cognitive [solutions], AI, will impact every decision made … **If it is digital, it will be cognitive**"
Ginni Rometty, Chairwoman, President & CEO of IBM

Experts conclude: A sustainable AI strategy will be a prerequisite in order to use it

Recent MIT survey found that
- **<1/3** of companies have **high degree of confidence** in the **fairness** and **auditability** of their **AI systems**
- **<1/2** have **confidence** in the **safety** of those systems

"Companies have to earn the **moral license to operate** when it comes to complex and ethically-charged domains such as AI"
Tommy Stadles, Technology entrepreneur

"Fundamental issues need to be resolved for the continued usage of AI technologies"
MIT Sloan Review

AI specifika oavsiktliga utmaningar
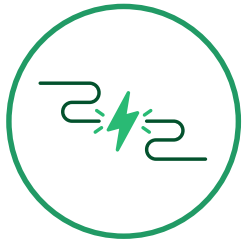
Missbruk av
AI & Data

"The bias
of the
creator"

Otränad AI

Data &
machine bias

Avsaknad
av
teoretisk
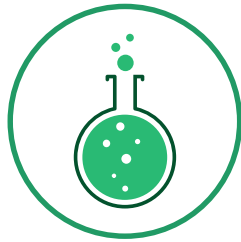förståelse

Exempel….

A myriad of data and potential AI applications...

... but what about this?

AI can assist us making our organization more efficient

We can use customer data to improve the experience for our users

We can leverage acquired data to improve our processes

We can use data & AI to create individualized risk premiums to lower our costs

We can use data & AI differentiate price and discounts

Is it OK to send furniture commercial to someone about to get divorced?

Is it right to target pregnant women for information on abortion?

Should agencies be contacted if a person drives drunk?

How about when media recommend articles to a person with racial opinions supporting his or her orientation?

How far can we go in our collection of personal information for credit risk scoring?

Using AI in search for a CEO can bias the preferred attributes towards successful male leadership skills, since history shows the larger part of CEO's being male.
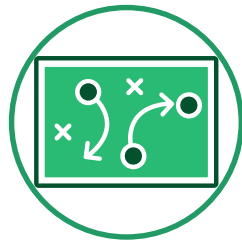
Is it ok to bypass specific ZIP codes? Amazon's same day delivery service was found to bypass ZIP codes that are predominately black

Is it ok to send sugar commercial to sugar addict?

AI Sustainability - Hållbar AI
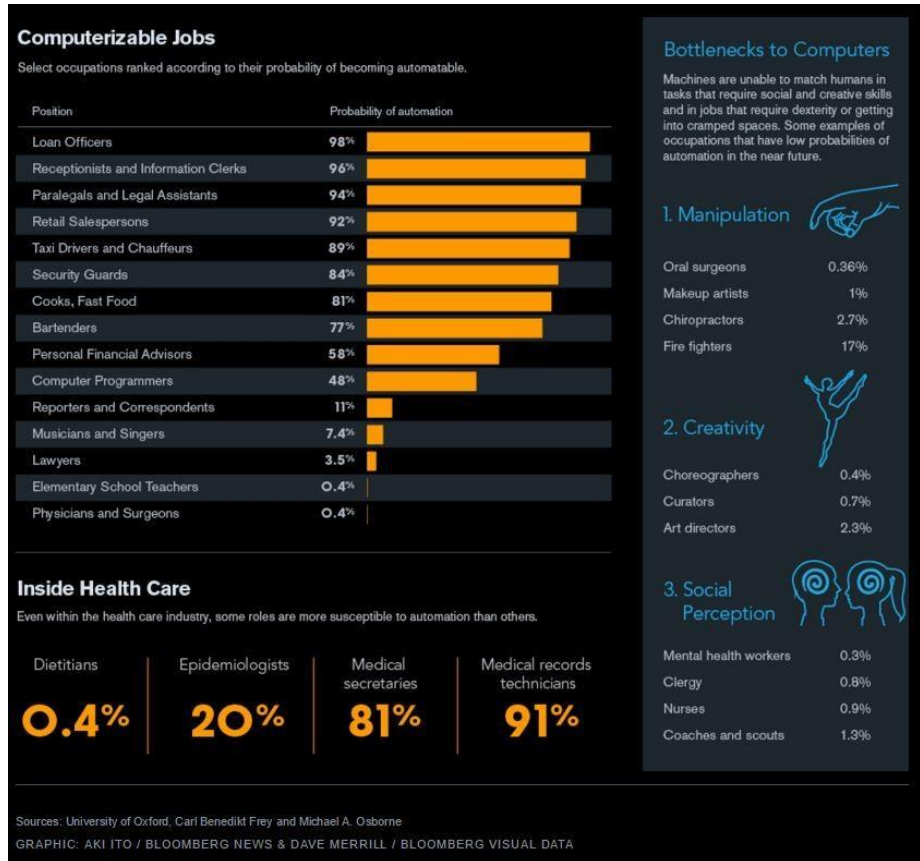

Transparens   Förutsägbarhet   Ansvar   Ansvarfull AI

Nya jobb, uppgifter och förmågor till följd av AI

Trainers
Explainers
Sustainers

Interfaces
and
complemen-
tary tasks

Crowd
sourcing

Computerizable Jobs

Select occupations ranked according to their probability of becoming automatable.

Position	Probability of automation
Loan Officers	98%
Receptionists and Information Clerks	96%
Paralegals and Legal Assistants	94%
Retail Salespersons	92%
Taxi Drivers and Chauffeurs	89%
Security Guards	84%
Cooks, Fast Food	81%
Bartenders	77%
Personal Financial Advisors	58%
Computer Programmers	48%
Reporters and Correspondents	11%
Musicians and Singers	7.4%
Lawyers	3.5%
Elementary School Teachers	0.4%
Physicians and Surgeons	0.4%

Inside Health Care

Even within the health care industry, some roles are more susceptible to automation than others.

Dietitians	Epidemiologists	Medical secretaries	Medical records technicians
0.4%	20%	81%	91%

Bottlenecks to Computers

Machines are unable to match humans in tasks that require social and creative skills and in jobs that require dexterity or getting into cramped spaces. Some examples of occupations that have low probabilities of automation in the near future.

1. Manipulation

Oral surgeons	0.36%
Makeup artists	1%
Chiropractors	2.7%
Fire fighters	17%

2. Creativity

Choreographers	0.4%
Curators	0.7%
Art directors	2.3%

3. Social Perception

Mental health workers	0.3%
Clergy	0.8%
Nurses	0.9%
Coaches and scouts	1.3%

Sources: University of Oxford, Carl Benedikt Frey and Michael A. Osborne
GRAPHIC: AKI ITO / BLOOMBERG NEWS & DAVE MERRILL / BLOOMBERG VISUAL DATA

Sammanfattning

- Teknologin rusar iväg i den tredje vågen - regelverk svårt att hänga med

- Ökat gap mellan de företag som omfamnar AI och de som släpar efter

- AI skalar på ett nytt och autonomt sätt - etiska implikationer oprövade

- Organisationer behöver stå till svars för etiska avväganden i AI rekommendationer och marknadsföring