

# Ledelse i maskinalderen

## Hvordan kunstig intelligens kommer til å endre lederjobben og påvirke offentlig sektor

NOKIOS: Sesjon 4A Omstilling i praksis for neste generasjons intelligent teknologi, Trondheim, 3. nov. 2016  
Vegard Kolbjørnsrud, PhD  
Assistant Professor, BI & Senior Research Fellow, Accenture

# Entering the age of intelligent machines

- The rise of Artificial Intelligence (AI) and robotics is predicted to drive the biggest technology disruption in the workplace since the Industrial Revolution
  - 33-50+ % of jobs estimated to be computerized
- Artificial intelligence combines multiple technologies into applications that can sense, comprehend, act, and learn
- Prior waves of new technology in the workplace have mainly impacted workers, rather than managers
- This is different. Artificial intelligence will radically change knowledge work incl. core management tasks



## Intelligent Machines: The jobs robots will steal first

By Jane Wakefield  
Technology reporter

© 14 September 2015 | Technology



# Are you ready for a machine your leadership team?



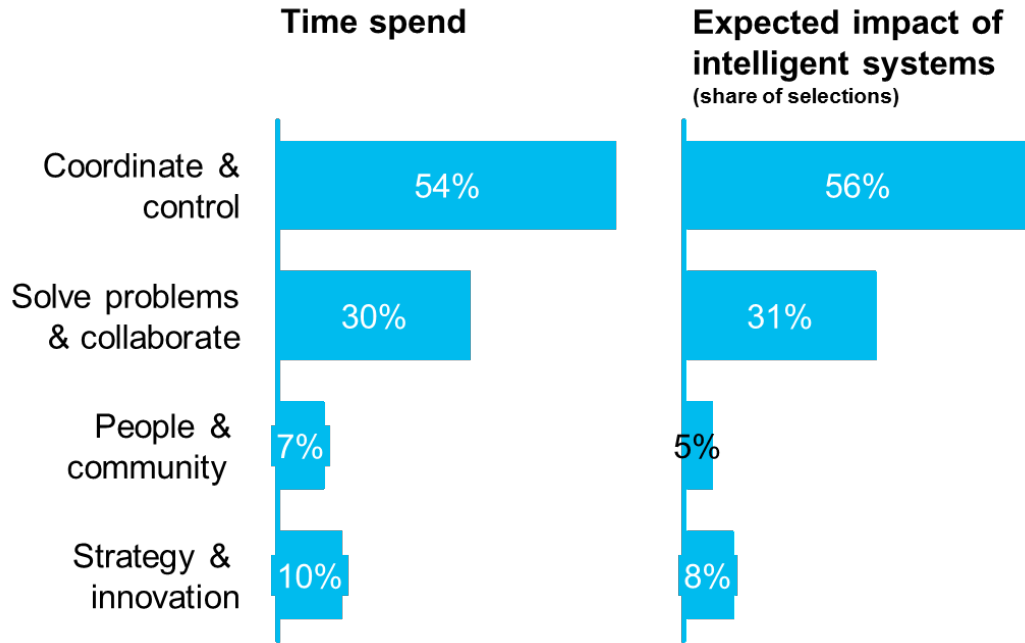
- In 2014 the Hong Kong VC firm appointed the intelligent algorithm VITAL\* to its board and gave it voting rights in investment decisions
- Has voted on a number of investments



- How will artificial intelligence impact managers' work?
- What are the actions managers and employers must take to fully integrate the power of artificial intelligence into their organizations?

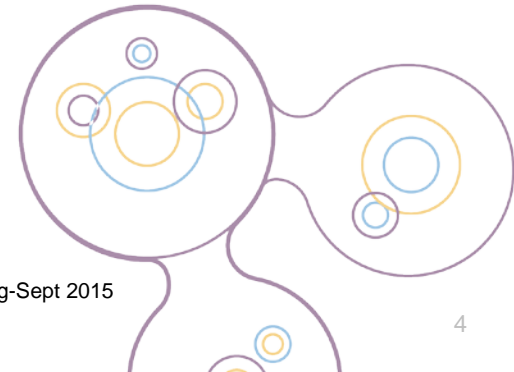
# Managers spend most of their time on tasks that intelligent machines will do in the future

## Time spent and expected impact of AI on management tasks

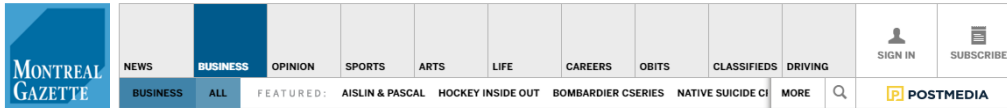


Source: Kolbjørnsrud, Thomas and Amico (2016) "The promise of artificial intelligence: Redefining management in the workforce of the future," Accenture Institute for High Performance Research Report; Accenture Cognitive Computing in Management Survey, Aug-Sept 2015

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# What's special about this financial news article?



## Hewlett Packard Enterprise beats 1Q net income and revenue expectations

THE ASSOCIATED PRESS 03.02.2016 |



SHARE

PALO ALTO, Calif. - PALO ALTO, Calif. (AP) \_ Hewlett Packard Enterprise Co. (HPE) on Thursday reported fiscal first-quarter net income of \$267 million.

The Palo Alto, California-based company said it had profit of 15 cents per share. Earnings, adjusted for restructuring costs and amortization costs, came to 41 cents per share.



ADJUST

The results topped Wall Street expectations. The average estimate of nine analysts surveyed by Zacks Investment Research was for earnings of 39 cents per share.



COMMENT

The information technology products and services provider posted revenue of \$12.72 billion in the period, also beating Street forecasts. Five analysts surveyed by Zacks expected \$12.7 billion.

For the current quarter ending in May, HP Enterprise expects its per-share earnings to range from 39 cents to 43 cents.



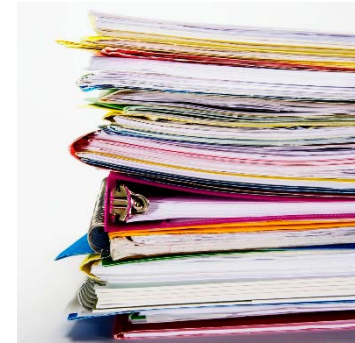
PRINT

The company expects full-year earnings in the range of \$1.85 to \$1.95 per share.

HP Enterprise shares have declined 10 per cent since the beginning of the year.

—  
This story was generated by Automated Insights (<http://automatedinsights.com/ap>) using data from Zacks Investment Research. Access a Zacks stock report on HPE at <http://www.zacks.com/ap/HPE>

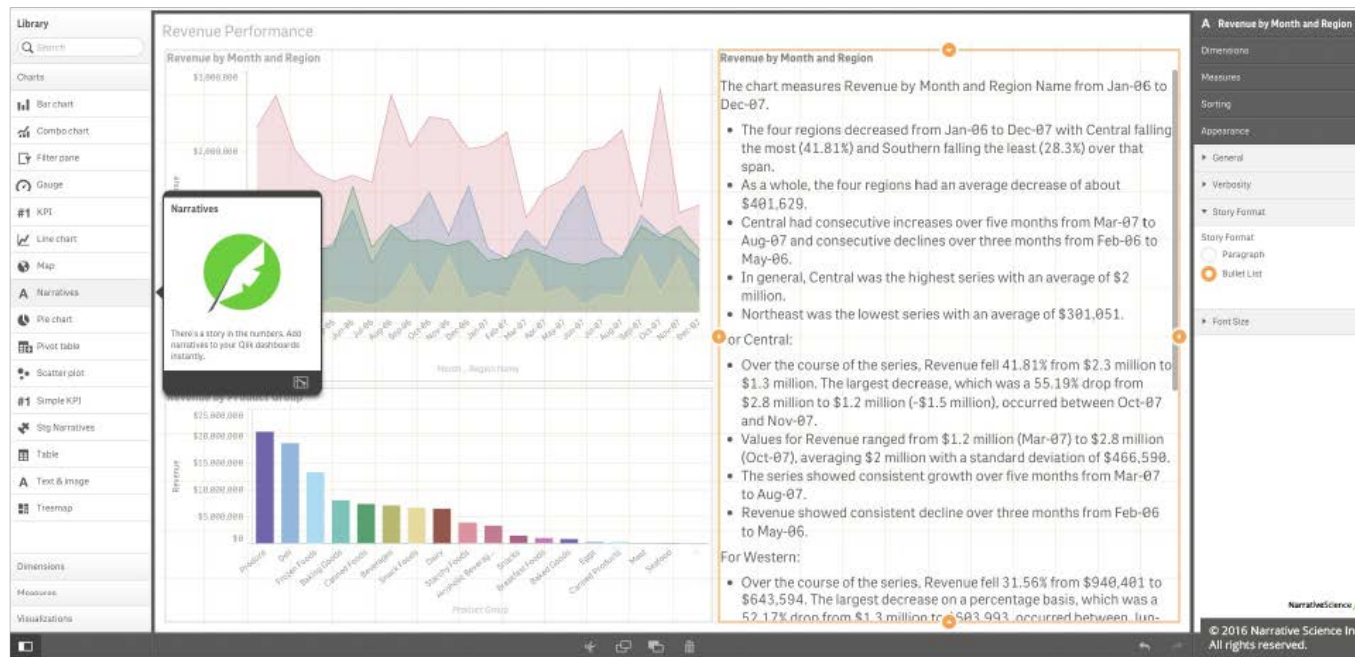
It is written  
by an  
intelligent  
reporting  
engine



...would you like it  
to draft your next  
management  
report?

# AI helping you write your management report is closer than you think...

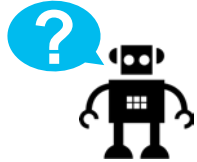
## Example: Tableau and Narrative Science partnering to provide narratives for data charts (announced Aug 2016)





# The greater the presence of machines, the greater the need for human judgement

## People power

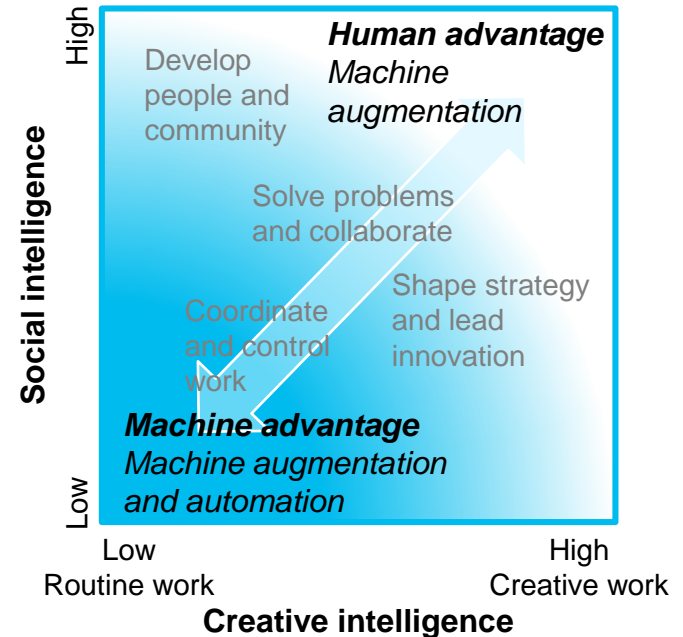


- It is amazing what AI can do with information, but some decisions require insight beyond what a information can tell



- This is the sweet spot for human judgment – applying experience and expertise to critical business decisions and practices

## Human and machine advantage in performing cognitive tasks

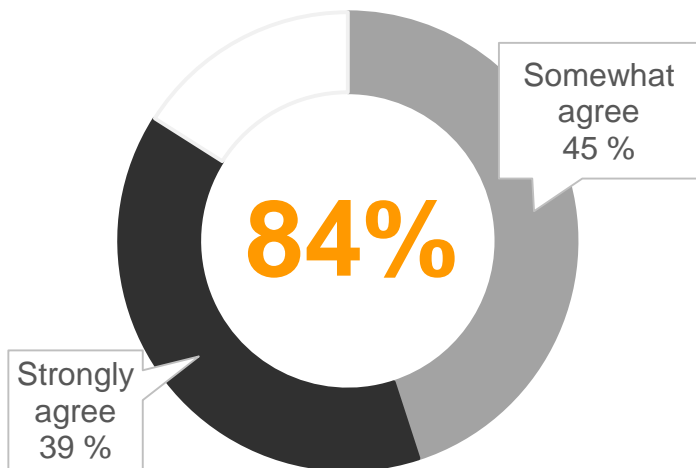


Source: Kolbjørnsrud, Amico, Thomas (2016) "The promise of artificial intelligence: Redefining management in the workforce of the future," Accenture Institute for High Performance; Shanks, Sinha, Thomas (2016) "Judgment calls: Preparing managers to thrive in the age of intelligent machines," Accenture Strategy

# AI stirs both excitement and fear

## Opportunity

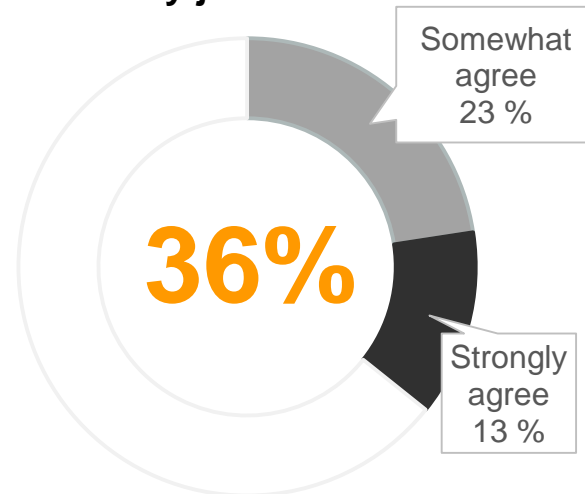
"Will make my work more effective and interesting"\*



&

## Threat

"I fear that intelligent systems will threaten my job."\*\*



**Public Service / Health 72% / 79%**

**28% / 35%**

Source: Accenture Cognitive Computing in Management Survey, Aug-Sept 2015

\* Intelligent systems will help me to become more effective in my work and focus more on interesting and impactful tasks.

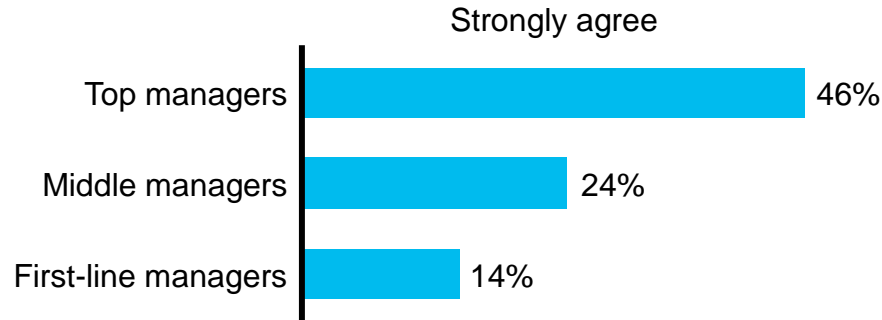
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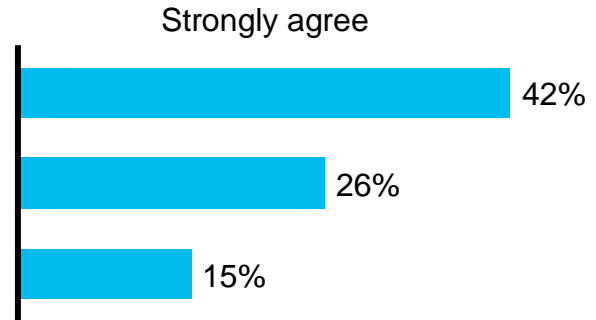
# Lower level managers are much more skeptical about taking advice from machines than their bosses

## Trust in and comfort with...

"Trust system advice in business decisions"\*



"Comfortable with intelligent system monitoring and evaluating my work"\*\*



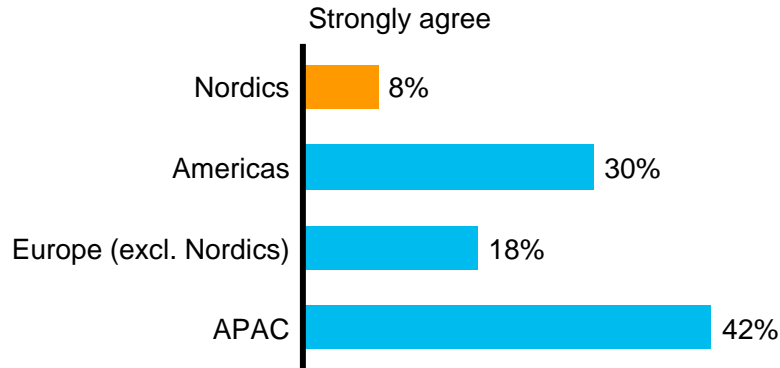
Source: Accenture Cognitive Computing in Management Survey, Aug-Sept 2015

\* I would trust the advice of intelligent systems in making business decisions in the future (e.g. an investment decision or deciding whom to hire or promote).

\*\* I am comfortable with an intelligent system monitoring and evaluating my work.

# Are we so skeptical in the Nordics that we will be leapfrogged by emerging economies?

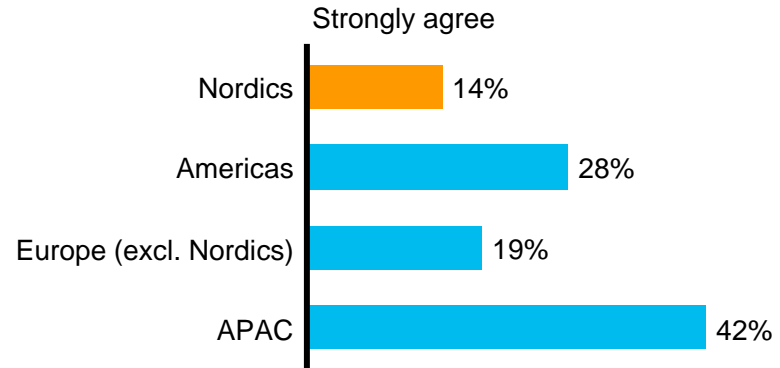
## Trust in Advice from AI\*



### Max/Min Observations



## Comfortable with System Monitoring and Evaluating My Work\*\*



### Max/Min Observations



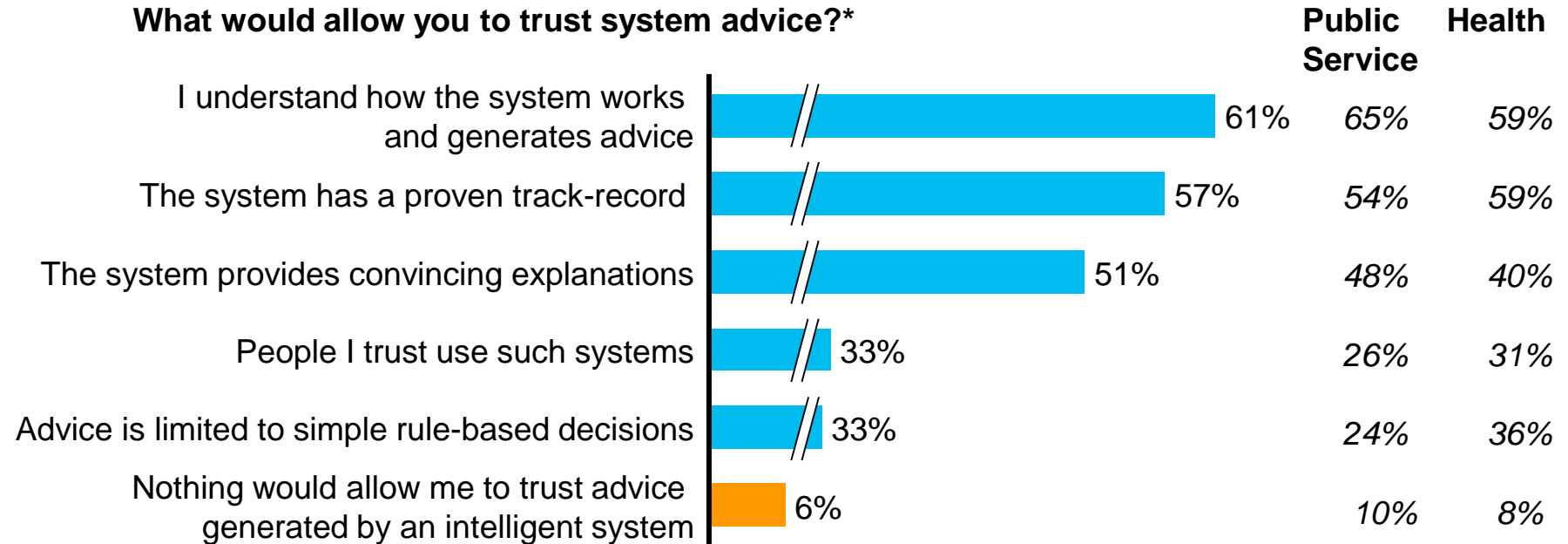
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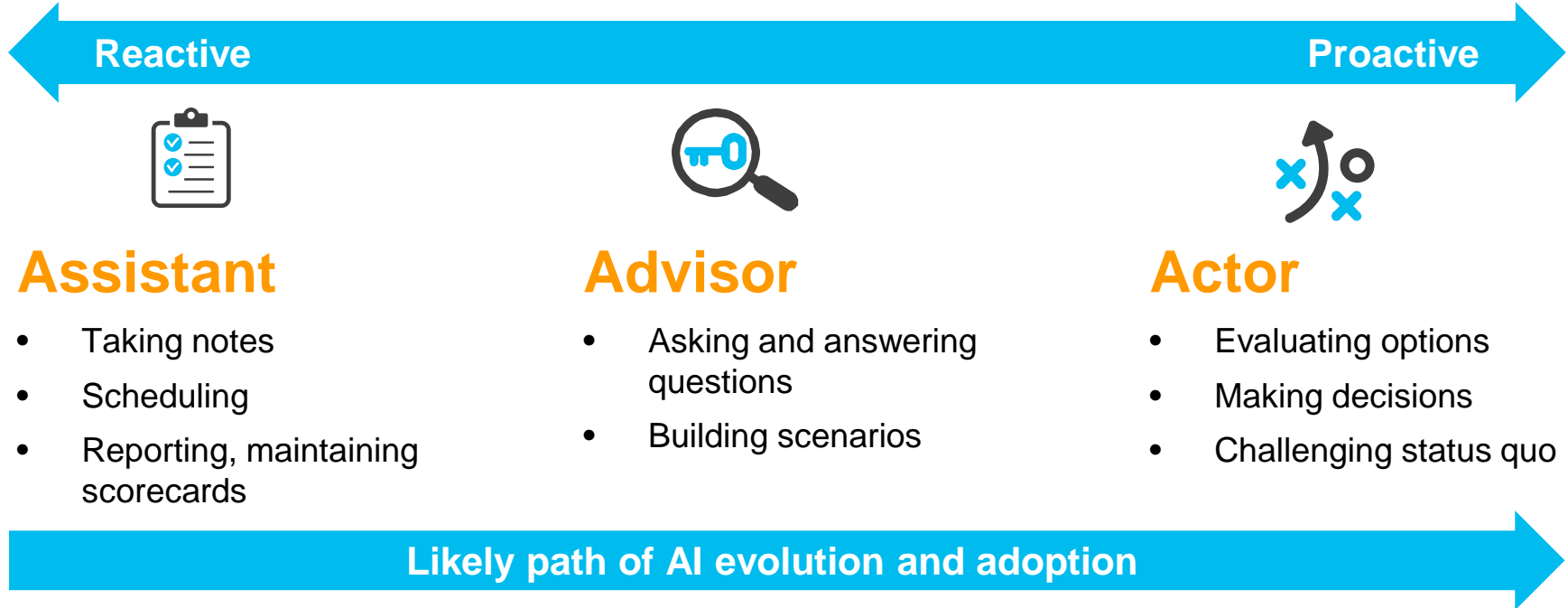
# Managers want machines to explain their logic before they will accept it

## What it takes to trust artificial intelligence



# Intelligent machines will fill a variety of roles in management

## Roles of intelligent machines



# Steps to success

Leaders must be prepared for technology to take on more routine tasks



Explore early, **experiment and engage** with new technology and pilots



Assign **new key performance indicators** to drive successful adoption of AI



Develop **training and recruitment strategies** for creativity, collaboration, empathy and judgment skills



Start building **the intelligent enterprise**—combine AI and collective human intelligence for optimal outcomes

# The public sector have to prepare for AI now



## Automation of routine work— manual and cognitive

- Regular case handling, application of rules
- Reporting, compliance, and quality assurance
- First-line citizen services



## Human-machine collaboration

Machine-augmenting decision-making, problem solving, and judgment work

- Medical diagnosis and treatment
- Complex case handling
- Innovation, improvement, and experimentation



## Mass customization of public services

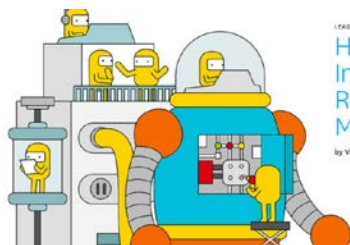
Deep insight into user/citizen needs and preferences.



## The new manager: From administrator to collaborative value creator

# Reports and media coverage on the study

## Reading more....



LEADERSHIP BRIEF COMMENT  
**How Artificial  
Intelligence Will  
Redefine  
Management**

by Vegard Kolbjørnsrud, Richard Amico, and Robert J. Thomas

## Harvard Business Review

<https://hbr.org/2016/11/how-artificial-intelligence-will-redefine-management>



<https://www.accenture.com/us-en/insight-promise-artificial-intelligence>



[www.accenture.com/ManagersAndMachines](http://www.accenture.com/ManagersAndMachines)



<https://www.accenture.com/us-en/insight-judgment-calls>

## News media (Norway)



«Er vi klare for en robot i ledergruppen?»  
<http://www.aftenposten.no/okonomi/Er-vi-klare-for-en-robot-i-ledergruppen-424570b.html>



«Nordmenn har ikke tillit til roboter»  
<http://www.dn.no/grunder/2015/12/13/2048/Arbeidsliv/nordmenn-har-ikke-tillit-til-roboter>



«Roboter får lederambisjoner»  
<http://www.dn.no/grunder/2015/12/06/2052/Arbeidsliv/roboter-fr-lederambisjoner>

## Social media

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- LinkedIn: Vegard Kolbjørnsrud