NAZARBAYEV
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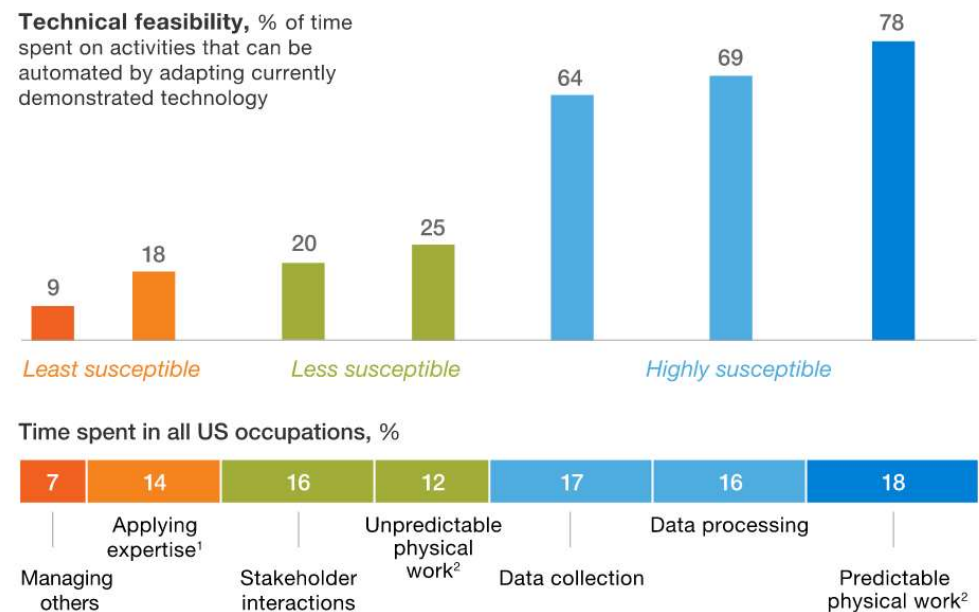# Will Humans Survive the Rise of the Machine?

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Disruption, Uncertainty, Jobs

- The only certainty is uncertainty
- Today's students will work in jobs that don't exist yet

Technical feasibility, % of time spent on activities that can be automated by adapting currently demonstrated technology

9 18 20 25 64 69 78

Least susceptible   *Less susceptible*   *Highly susceptible*

Time spent in all US occupations, %

7	14	16	12	17	16	18

Managing others — Applying expertise[1] — Stakeholder interactions — Unpredictable physical work[2] — Data collection — Data processing — Predictable physical work[2]

From: McKensie Quarterly July 2016
Where machines could replace humans—and where they can't (yet)
By Michael Chui, James Manyika, and Mehdi Miremadi

You can't hammer a nail through the internet

-Michael Crawford, 2010 *Shop Class as Soulcraft*

Image Source:
contourcrafting.com

Does it make sense to prepare for uncertainty in job markets by increasing focus on jobs training?

Yes... Sort of

We must teach core competencies but most importantly an orientation to knowledge that is flexible, adaptable, and continually growing

There I said It

But what should we expect NOT to change fundamentally?

Universities as Sources of Leadership

- Universities are not **only** for job training
- Universities lead industry
- Universities lead society
- Universities lead scholarship

Humans

- In the likelihood that humans survive the coming disruptions, we will continue working with human students who will live their lives as students.

- Humanities are more valuable than ever to understand changing relationships.

Knowledge is knowing that a tomato is a fruit; wisdom is not putting it in a fruit salad.

-Miles Kington

Expertise

- Expertise is real and it is valuable
- Our expertise must become more dynamic
  - Increase pedagogical research and expectations; focus on currency of research for faculty; validate subject areas outside of traditional silos
- We must insist on the place of experts in the student experience

Subjectivity

- More data does not lead to more objectivity. We must resist the cult of the calculable.
    - Transparency is not guaranteed by algorithms.
- We should expect a greater role for subjectivity and imperfect decision making as we deal with larger and fuzzier data-sets.
- We are responsible for working with our quantitative colleagues to understand and adapt.

Leading Industry

- We lead industry not only through our research and collaboration, but also in how we organize scholarship and study

- Should we eliminate disciplinary degrees entirely? Replace them with interdisciplinary study? Change the concept of a university degree?

Leading Society

- Industrial revolutions are also social and political
- We have a responsibility to engage with the social problems that will define the next several decades – income inequality; inter-X conflict; migration; urbanization; unemployment; struggles of humanity vis a vis machine, one another, and self; on and on