Axes of Uncertainty

We tend to under-predict or over-predict change. The reason: imagining plausible outcomes forces us to confront our expectations and cherished beliefs. The Axes result in first-draft scenarios. They are short but detailed narratives describing plausible outcomes and impacts. A completed Axis results in a 2 x 2 matrix and four first-draft scenarios describing multiple, alternative futures, given what we can observe from the past and present. The scenarios will reveal risk and opportunity, help you prioritize your work and show you where to take incremental actions.

Covid-19 leads to a reduction in the labor supply

Covid-19 leads to faster workforce automation and a sharp reduction in jobs. Threatens global economy.

Covid-19 reveals new insights for workforce automation, affords some time to prepare for significant labor disruption.

Covid-19 does not lead to a reduction in the labor supply

Covid-19 reveals cracks in our global supply chains. Eventually shifts manufacturing away from traditional companies and countries to new tech-savvy entrants.

Every company has access to intelligent robotics applications at scale. Reveals new partnership and business opportunities in sectors impacted by Covid-19.

Cloud robotics and Ai-in-the-Cloud are tested in 2020

Cloud robotics and Ai-in-the-Cloud are used at scale in 2020
Axes of Uncertainty

1. Brainstorm External Uncertainties

External uncertainties are disruptive changes over which you have no direct control. We use four broad categories of external uncertainties including economic factors (macroeconomic trends and forces shaping our economies, the distribution of wealth); social factors (changes to public health and education, demographic and population shifts, environmental changes); politics and activism (regulation, executive orders, trade agreements, elections, use of social media); and technological and scientific progress.

Generate a list of uncertainties using these categories to start. You can add in additional external uncertainties you’re curious about or that are specific to your field. Write each uncertainty using opposite states as you see below.

- A mild pandemic recurs every year
- Covid-19 leads to a reduction in the labor supply
- Covid-19 accelerates new investments in biology and biotechnology

- Covid-19 is contained in 2020
- Covid-19 does not lead to a reduction in the labor supply
- Covid-19 shifts new biotech investments primarily to virology and vaccine research
## Axes of Uncertainty

### 2. Categorize External Uncertainties

Categorize external uncertainties by subject. Start with economic, social, technological and regulatory/ politics/ activism, but also add categories that are relevant to your work.

<table>
<thead>
<tr>
<th>Economic</th>
<th>Social</th>
<th>Technological</th>
<th>Regulatory, Politics, Action</th>
<th>Other #1</th>
<th>Other #2</th>
<th>Other #3…</th>
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3. Brainstorm Internal (or Known) Uncertainties

Internal (or Known) Uncertainties are disruptive changes over which you have some direct control. In a company, this could be things like: workforce development, making new hires, budget allocations, decisions executive leadership will make, marketing efforts, R&D efforts, investments and the like. If you’re using this tool for personal reasons, list some things over which you have control and you’re curious about. Examples: traveling for pleasure/ work, attending a conference, pursuing a course of study. Again, generate a list of uncertainties using opposite states.

4. Select Two Uncertainties and Put Them On Opposing Axes

Pick two of your uncertainties from different categories (example: Economic and Social, or Economic and Internal) and put them on opposing axes, like this:
Axes of Uncertainty

5. Write A Headline For Each Quadrant

Headlines should describe what a future state would look like if each of the uncertainties were to happen. Write a headline and a short, first-draft scenario.

Covid-19 leads to a reduction in the labor supply

- Covid-19 leads to faster workforce automation and a sharp reduction in jobs. Threatens global economy.
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Cloud robotics and Ai-in-the-Cloud are used at scale in 2020

- Covid-19 reveals cracks in our global supply chains. Eventually shifts manufacturing away from traditional companies and countries to new tech-savvy entrants.
- Every company has access to intelligent robotics applications at scale. Reveals new partnership and business opportunities in sectors impacted by Covid-19.

Covid-19 does not lead to a reduction in the labor supply

- Cloud robotics and Ai-in-the-Cloud are tested in 2020

Every company has access to intelligent robotics applications at scale. Reveals new partnership and business opportunities in sectors impacted by Covid-19.
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6. Label Each Quadrant

Label each quadrant to help you triangulate and prioritize the actions you will take.

- Near-term Opportunity
- Long-term Opportunity
- Near-term Risk
- Long-term Risk
- Existential Risk

![Diagram showing Axes of Uncertainty with Near-Term Opportunity, Long-Term Opportunity, Near-Term Risk, Long-Term Risk, and Existential Risk quadrants. The diagram includes examples of how Covid-19 impacts each quadrant.](Image)