What 21st-Century Moonshot Should Look Like
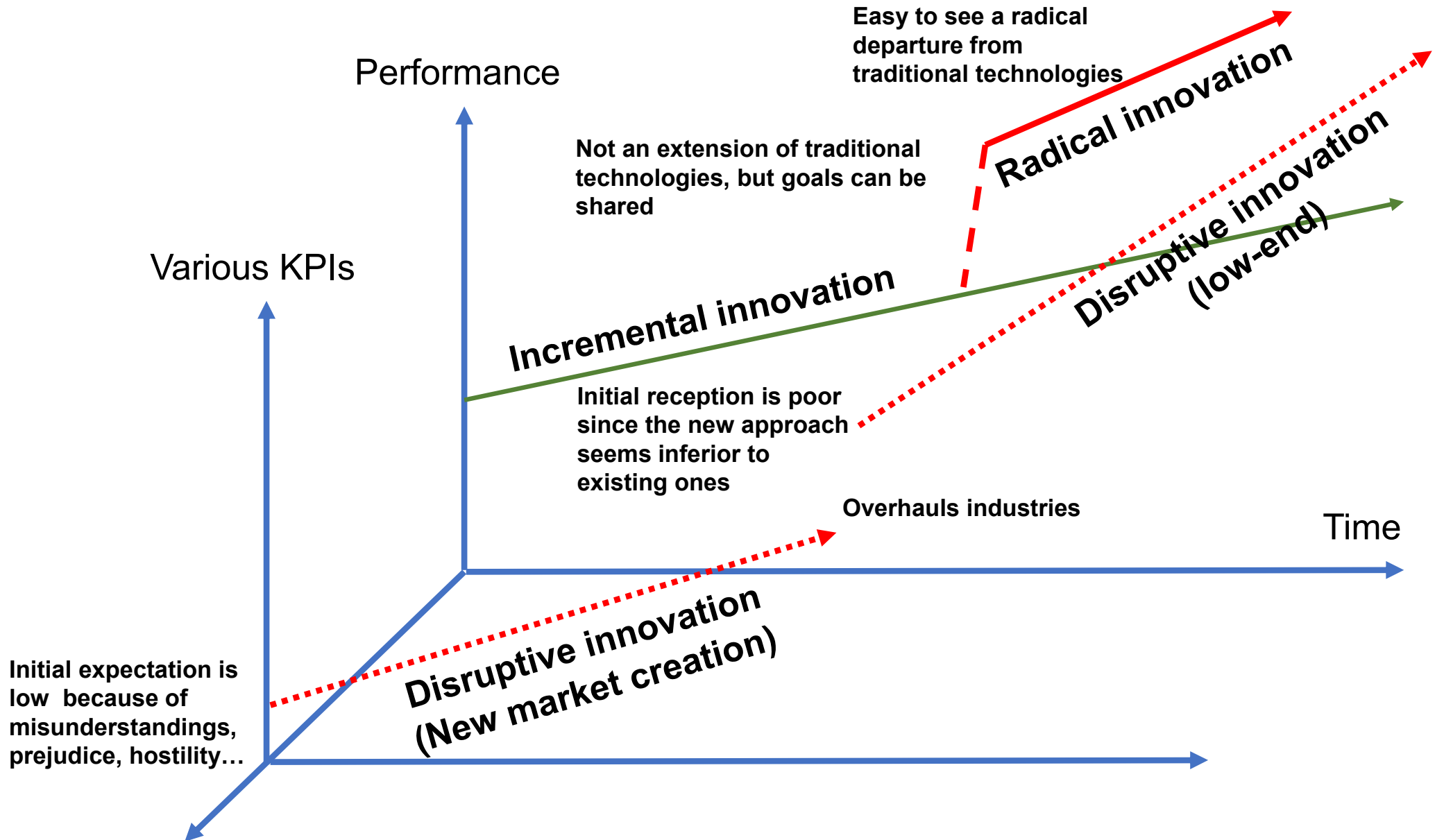
Hiroaki Kitano

Setting Target

- **Distill and refine the concept until it can be said in a short sentence**
  - **Goal that anyone can understand**
  - **Target that is distilled and refined to be stimulating enough**

- **Target with a punch**
  - **Change the future of human race**
  - **Supported by many, exciting, and giving a glimpse of future**
  - **A light of hope in times of difficulty**

- **Not just a mantra, but a pledge**
  - **Winning a large support means you must commit yourself**
  - **Set milestones to give flexibility in strategy and tactics**
  - **Developing technology is not enough – frameworks for introducing technological achievements to the society must also change**

- **A set of multi-dimensional innovations will be derived**
  - **A consensus can be built, but not just an extension of the past**
  - **Based on radical innovations, with embedded mechanisms for inducing disruptive innovations (e.g. having start-ups on board)**

Types of Innovation

Based on *Seeing what's next: Using theories of innovation to predict industry change* (C. M. Christensen et al., Japanese translation from Shoeisha, 2014) and *Dilemmas of innovation in Japan* (Shunpeita Tamada, Shoeisha, 2015)

Possible Types of Moonshot Projects

- Technology-driven
  - Research and development achievements directly linked to clearing the goal
  - Examples: Apollo Project, developing AI that can make Nobel Prize-worthy scientific discovery

- Technology plus social transformation
  - RD achievements alone not enough to clear the goal, requiring social transformation at the same time
  - Examples: CO2 reduction, total removal of marine debris

- Social transformation-driven
  - Driven by transformation of social structure, supported by technological developments
  - Example: resolving poverty

Technology plus Social Transformation

Changing frameworks for introducing RD achievements to the society at the same time, leading to their quick acceptance and clearing the goals

- Highly ambitious targets achieved by setting realistic milestones and incremental deployment. Open-sourced achievements becoming wildly popular.

- International support network organized at a very early stage.

- Many spin-outs created around the project, giving rise to an ecosystem of quick-growing start-ups.

- Stakeholders at different levels emerging across the world, facilitating collaboration.

- Japan's Moonshot Project to become the first step.

- Success achieved through all-out effort across fields and tri-party initiatives of business, academia, and government

Should NEVER look like this

"We have the technology, hope everyone loves and uses it."

- Does it make economic and political sense?
- Goal is to change the human race's future, not just to research and develop
- Gradually modulated down to garden-variety focus areas