The 2023 R&D and Innovation Agenda

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Wellspring
INNOVATION OPS
for the modern enterprise

We power world-class innovation management and technology commercialization programs for leading corporations and universities.
COVID vaccines – a successful innovation ecosystem
Research Study: The 2023 R&D and Innovation Agenda
Wellspring’s annual study: five years and counting

2019

2020

2021

2022

2023

THE 2023 R&D AND INNOVATION AGENDA

In a year of transition, innovation shows mixed signals

THE INNOVATION HABITS OF HIGH-GROWTH COMPANIES

Wellspring
Research methods for the 2023 study

**Study design**

- 330 respondents (US and UK)
- $1B+ companies in a broad range of industries
- Primary job function in R&D, Innovation, Strategy, Product, or General Management
- 14% C-Suite, 18% VP, 30% Director, 38% Manager

**Survey details**

- Phone survey conducted in July 2023
- 44 survey questions on innovation management practices
- Topics included: Strategy, Governance, Budgets, KPIs, Processes, Systems, etc.
- Dozens of qualitative phone interviews (summer 2023)
# Research themes: what we asked about

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<th>Innovation practices (annual)</th>
<th>Complicating factors (2023 only)</th>
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<td>Economic Headwinds</td>
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<td>Generative AI</td>
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<td>Metrics &amp; KPIs</td>
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Today's topics

1. Economic Headwinds
2. Generative AI
3. Future vs. Present
Economic Headwinds
Two conflicting impulses from 2022 – sound familiar?

“Startups and emerging technologies are progressing very quickly. We see opportunities everywhere we look.”

- Innovation executive, F500 pharma company

“Right now, we’ve been putting bolder bets on the backburner. It’s not a ‘no,’ just a question of when.”

- Innovation executive, F500 consumer products company
2022: inflation was a top concern

Which of the following best describes the effect that current and expected inflation issues are having (or are likely to have) on your company’s innovation activities?

- Significant changes to our innovation activities: 8%
- Some changes to our innovation activities: 29%
- Little or no changes to our innovation activities: 63%
- Not sure / don’t know: 0%

To the extent your innovation programs have been affected by current and expected inflation issues, how long do you expect the changes to last?

- Less than 6 months: 5%
- 6 to 12 months: 25%
- One to two years: 50%
- Two to five years: 16%
- 5+ years / permanent: 1%
- NA / not sure / don’t know: 3%
2023: generalized economic headwinds

Which of the following best describes the effect that current and expected economic headwinds are having (or are likely to have) on your company's innovation activities?

- Significant changes to our innovation activities: 16%
- Some changes to our innovation activities: 42%
- Little or no changes to our innovation activities: 41%
- Not sure / don’t know: 1%

To the extent your innovation programs have been affected by current and expected economic headwinds, how long do you expect the changes to last?

- Less than 6 months: 11%
- 6 to 12 months: 26%
- One to two years: 30%
- Two to five years: 29%
- 5+ years / permanent: 4%
- Not sure / don’t know: 0%

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Two waves of economic uncertainty

- Inflation
- General economy

- 2020: Low concern
- 2021: High concern
- 2022: High concern
- 2023: Low concern
What’s going on? No one is quite sure.

Hypotheses include:

- Sluggish capital markets
- Changing consumer demand
- Persistent supply chain issues
- Lingering inflation concerns
- CEO uncertainty about the future

“Until a year ago, everyone wanted growth. Then the market changed. And capital is more expensive.”

- R&D executive, global food products company

“We see the signs of economic recovery all around us. But the orders just aren’t coming in yet.”

- Innovation executive, F500 chemicals & materials company
Innovation budgets are stuck in neutral

Which of the following best describes the effect that current and expected economic headwinds are having (or are likely to have) on your company's innovation budget?

- Significant changes to our innovation budget: 13%
- Some changes to our innovation budget: 41%
- Little or no changes to our innovation budget: 47%
- Not sure/don't know: 13%

How much do you expect your company’s overall innovation spending (including R&D spend) to increase or decrease over the next 12 months?

- Decrease > 10%: 1%
- Decrease 5-10%: 17%
- Decrease 0-5% Stay the same: 35%
- Increase 0-5%: 37%
- Increase 5 to 10%: 12%
- Increase > 10%: 8%
High-level business priorities are unchanged

Which of the following initiatives are likely to be among your organization’s top business priorities over the next two years? (select up to three)
Generative AI
AI’s rapid rise

Which of the following best describes the impact that generative AI technologies are having (or are likely to have) on your company’s innovation activities?

- Significant changes to our innovation activities: 15%
- Some changes to our innovation activities: 29%
- Little or no changes to our innovation activities: 56%
- Not sure / don’t know: 5%

To the extent your innovation activities will be impacted by generative AI technologies, how soon do you expect it to materialize substantively?

- Within the next 6 months (or it’s already here): 17%
- 6 to 12 months from now: 36%
- One to two years from now: 40%
- Two to five years from now: 6%
- 5+ years from now: 1%
- Never or not applicable: 0%
AI adoption: it’s a broad range

Company A
- Unicorn startup with 20+ AI patents and counting.
- R&D uses AI technologies to design, develop, and deploy new products.

Company B
- Large established corporation, same industry as Company A.
- Lots of ideas for using AI in R&D, none in production.

AI adopters

AI laggards
AI priorities are unfocused

For each of the following possible uses of generative AI, please rate its expected impact on your company’s innovation activities.

<table>
<thead>
<tr>
<th>Use of Generative AI</th>
<th>Significant Impact</th>
<th>Some Impact</th>
<th>Little to No Impact</th>
<th>Not Sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideation: Improving our ability to brainstorm, think creatively, come up with new ideas</td>
<td>36%</td>
<td>19%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Content: Improving our ability to create designs, prototypes, code, etc.</td>
<td>40%</td>
<td>39%</td>
<td>3%</td>
<td>1%</td>
</tr>
<tr>
<td>Products: Improving our products as a component technology</td>
<td>38%</td>
<td>43%</td>
<td>18%</td>
<td>1%</td>
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Leaders are guessing right now – and that’s normal

“Generative AI has taken everyone by surprise. At a recent Board meeting, they kept asking, what are you doing about this?”

- Innovation executive, financial services company

“For the next 5 to 10 years, these AI tools will be just that – tools. They will support human engineers to be more efficient.”

- Product Devpt. leader, industrial equipment company

Source: Technology Trend Analysis, How experts explain technology adoption cycle
Future vs. Present
Despite headwinds, ambitions remain high

Which of the following best describes the effect that current and expected economic headwinds are having (or are likely to have) on your company’s willingness to pursue non-incremental innovations (“horizon 2” and “horizon 3”)?

- Significantly more willing: 15%
- Somewhat more willing: 29%
- About the same: 20%
- Somewhat less willing: 29%
- Significantly less willing: 7%

To what degree have your organization’s innovation ambitions changed within the past 12 months?

- Significantly more ambitious: 24%
- Somewhat more ambitious: 44%
- About the same: 13%
- Somewhat less ambitious: 18%
- Significantly less ambitious: 1%
Ambition for the future: carbon neutrality

Scope 1
Direct emissions from company-owned and controlled resources.

Scope 2
Indirect emissions from the generation of purchased energy.

Scope 3
Indirect emissions that occur in the company’s value chain.

Source: Plan A, *What are Scopes 1, 2, and 3 of Carbon Emissions?*
Innovation pipelines are steady

To what extent has your company pursued a pipeline of innovations along each of the following dimensions over the past two years? (percent answering “consistently”)

- Digital transformation
- New Product Development (NPD) and/or new product introductions
- Innovating our customer experience
- Operational innovations (for example, improving call center efficiency)
- New venture formation and/or moonshots
- Emerging technologies and/or new technology development
- Changes to your business model(s) and/or business model shifts

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The path to net-zero has its challenges

- Fundamental mismatch between consumer expectations and cost-curve realities.
- Long-term replacement cycles for capital equipment are on a different time scale than net-zero commitments.
- Executives want action on carbon neutrality, but without a commensurate increase in the R&D or innovation budget.
- Organization-wide coordination of emissions reduction programs remains fragmented.
- Lack of direct control over Scope 3 improvements.

“We see growing regulatory pressure to decarbonize. But our customers will not compromise on product performance.”

- Innovation leader, consumer products company

“At our company, someone else decided on the public commitments. Then they left it to the technical folks to solve.”

- R&D leader, global building products company
Innovation is inching toward centralized governance

Which of the following best describes how innovation is managed across your company?

- **We have a corporate innovation office run by a Chief Innovation Officer (or similar).**
  - 22% (2023)  
  - 18% (2022)  
  - 16% (2021)

- **We have an innovation department that reports into a specific function or unit (for example, R&D, Strategy, Marketing, etc.).**
  - 36% (2023)  
  - 41% (2022)  
  - 27% (2021)

- **We have a senior executive Innovation Steering Committee (or similar governance board).**
  - 25% (2023)  
  - 21% (2022)  
  - 25% (2021)

- **Innovation efforts are coordinated, but only at the Business Unit or sub-corporate level.**
  - 14% (2023)  
  - 19% (2022)  
  - 16% (2021)

- **We have various innovation programs and teams, but without centralized governance.**
  - 2% (2023)  
  - 2% (2022)  
  - 2% (2021)

- **Not sure / don’t know.**
  - 0% (2023)  
  - 0% (2022)  
  - 1% (2021)
Execution barriers remain

How significant are each of the following factors as impediments to the R&D and/or innovation group’s success? (percent answering “very significant”)

- Poor coordination: 43% (2023), 40% (2022), 41% (2021)
- Too many projects: 39% (2023), 38% (2022), 37% (2021)
- Oppty identification: 38% (2023), 36% (2022), 38% (2021)
- KPIs / metrics: 38% (2023), 36% (2022), 38% (2021)
- Process gaps: 37% (2023), 38% (2022), 36% (2021)
- Short-termism: 36% (2023), 38% (2022), 36% (2021)
- Finding talent: 42% (2023), 31% (2022), 32% (2021)
- Poor incubation -> scaling: 36% (2023), 29% (2022), 27% (2021)
- Unclear strategy: 36% (2023), 29% (2022), 26% (2021)
- Noticing disruption: 36% (2023), 25% (2022), 25% (2021)
- Software / tools: 24% (2023), 26% (2022), 21% (2021)
- Insufficient funding: 24% (2023), 26% (2022), 18% (2021)
Parting thoughts
The road ahead: where are we going?

Optimist
We are in the early stages of a new renaissance of R&D and Innovation globally. This year’s challenges are natural hiccups as we enter a new paradigm.

Pessimist
These economic headwinds will persist as the new normal. Corporate Innovation will continue to stumble along with the same execution challenges as always.
Thank you / Q&A

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