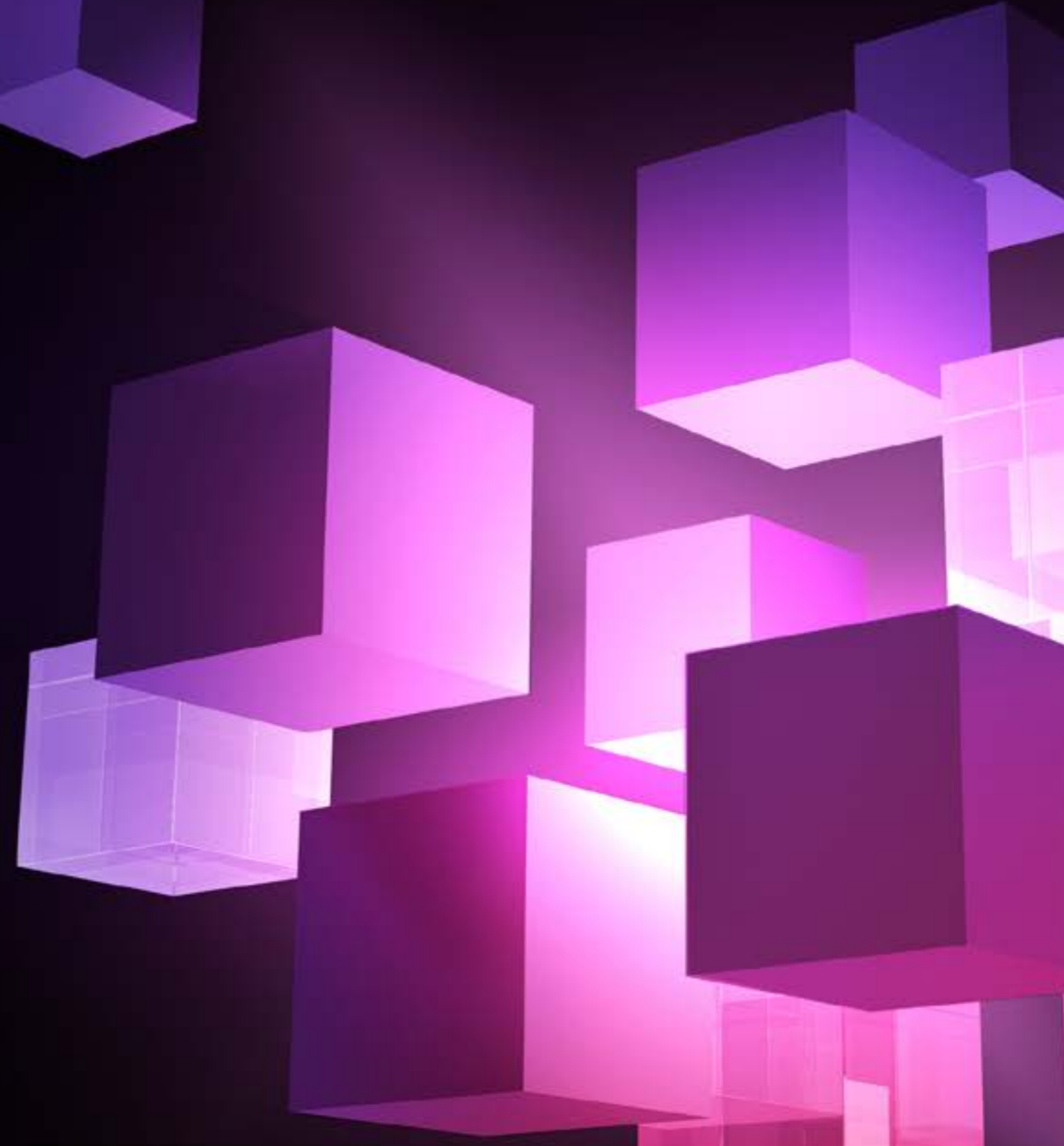aws ExecLeaders

intel.

Machine Learning

When do you scale?

Artificial Intelligence (AI) is disruptive. It's exciting. And we've only touched the surface. Scaling AI and ML is on the horizon for many ambitious businesses, but there is hesitancy in the direction of investment. Boards need to see the real business value behind AI/ML and see the needle move on business metrics.

Are you familiar with this in-demand technology and are you confident enough to successfully apply it to your business?

To find out more, our recent ExecLeaders Forum brought together 22 leaders responsible for the business value of AI/ML and discussed two critical areas facing businesses today:

1. What are your top challenges on the data / ML journey? How are you addressing them?

2. How do you best demonstrate ROI from ML investments - then bring the board with you?

The group shared interesting stories, experiences and practical tips throughout the evening in a Chatham House environment to enable an open flow of discussions

We hope you enjoy the conversation.

Our guests represented the following types of organisations.

Retail TV, media and news

Insurance

Utilities

Government

Financial services

Transport

Software

Manufacturing

Food services

Not for profit

Over 40% of the attendees are building data foundations (data lakes, pipelines) and close to a third are already using ML across many mission-critical use cases (Figure 1). Over 50% of the group used third parties (implementation partners, AWS Professional Services, etc.) to support ML projects (Figure 2)
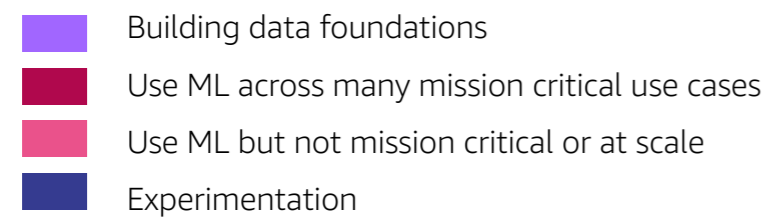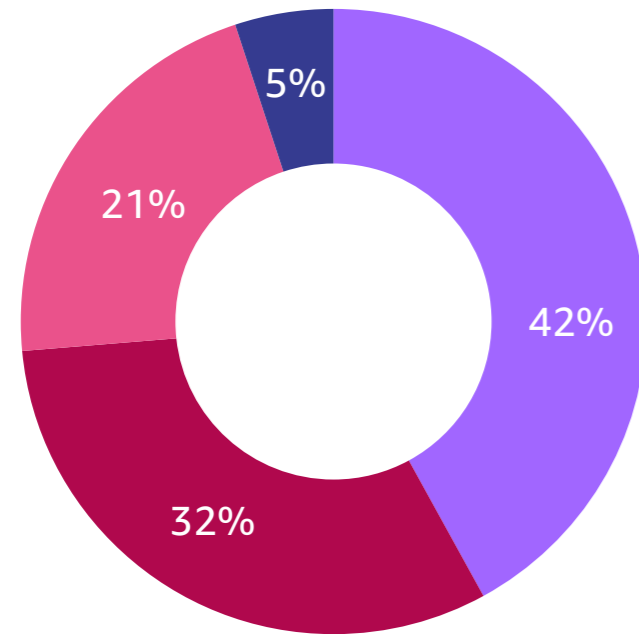

5%

21%

42%

32%

■ Building data foundations

■ Use ML across many mission critical use cases

■ Use ML but not mission critical or at scale

■ Experimentation

Figure 1: Member profiles based on the stages of the data / ML journey

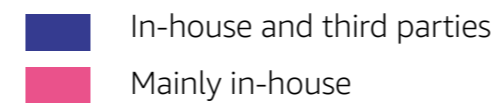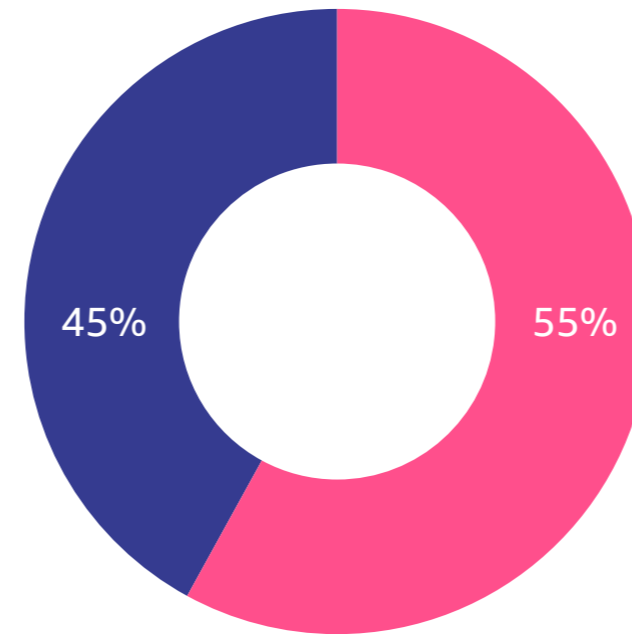45%

55%

■ In-house and third parties

■ Mainly in-house

Figure 2: How members are executing their Data / ML projects

Embracing failure builds both AI/ML capabilities and character

Is everyone marching towards AI and ML? AI leaders from a digital identity verification company set the tone for the evening's discussion by explaining their approach to AI/ML. They had to convince the board to make a multi-million dollar investment to strengthen the Data and ML capability. They told us of their powerful tactic of guiding excitable data science teams with the mantra to "always be in service to the business"

AI and ML are integral to their business, so they've been on this journey for a while. But that doesn't mean their enthusiasm has curbed at all. They pointed out that AI and ML are 'in-style' now and there is a risk of applying it without adequate consideration to whether it's the right solution to the problem or not. Instead of using four lines of code for a solution, data scientists will train a machine or AI model. It's something they continue to deal with within their company, working hard to emphasise delivering value above all else with their delivery teams.

With this in mind, they developed a set of guiding principles for their data science teams, to help keep them on track. The key sentiment behind these principles was shared by a number of audience members and went on to frame much of the evening's discussion: be driven by value.

As our speaker so aptly put it, "If you think algorithms or AI or ML isn't adding business value, then you should shut it down".

It's this focused mindset that helps form the base of their pragmatic approach to AI/ML. They were honest in admitting that the problem they first identify is rarely the problem they have to solve. ML problems and the approach to solving them are iterative. New challenges appear from nowhere and don't care how much work has already been done, it can take many trips back to the drawing board and lots of "training the right muscles" to develop the actual capabilities needed.

Experience has taught them that academic literature around AI/ML and open-source artefacts are a good start but not a substitute to real-world data. They have discovered that the quickest way to get to the heart of the real problem is, somewhat surprisingly, by going slowly and gently releasing products. Not getting swept up in all the excitement.

To illustrate their journey, they used the analogy of scaling El Capitan (the problem). First, you define the problem: rock climbing the mountain. It's a glorious day, so you and your teams are excited to plan a course and go. The solution (POC) they devise looks like an elevator straight to the top of the mountain. Perfect. Although you're excited, you practice caution—best test the kit first. You soon realise, however, that your elevator won't work. The terrain is wrong and requires something closer to a set of stairs (test sets). So you go away and train, build up your leg muscles to make the climb. Feeling confident, you stride back. Only then do you realise, this is a free climbing problem. Not a stair-climbing problem (beta release). That requires a whole different set of muscles that you don't have. You head back and train more. You do all of your due diligence, gathering data. You're confident you can free climb now. This time you're ready. But of course, it's not that easy. It's free climbing, but free-climbing at night in snowy conditions (full release). Relentless, you go again.

This mindset not only proves effective for our speaker's delivery teams, but also for getting their board on-board. They note how tricky that can be in top-down organisations. Helping commercial stakeholders understand the importance of investing—especially when there's no definition of 'done'—takes resilience. By keeping consistent with their message throughout, they brought the board along on the journey through an unyielding focus on demonstrating how business value is tied to business metrics. The result? Securing an eight-digit funding grant.

The takeaway here is clear: AI/ML technology is always in service to the business. And if it's not, it's ok to change course.

Three tips from our keynote

1. Be driven by value

2. If AI or ML isn't adding business value, shut it down

3. Be relentless. This is a journey that will take time and face many challenges

The take-outs from the break-outs

The evening also featured two breakout sessions, where the group split to answer some knotty questions. Here are the highlights of those discussions.

Session one: What are your top challenges on the data / ML journey? How are you addressing them?
When it comes to taking action, our groups felt the following points were important.

- To get sustainable value from AI/ML, start small and find ways to iterate and scale. The journey is longer than you expect, and longer than many appreciate.

- Talent acquisition and retention is one of the key challenges for most members, especially after the pandemic – one of the reasons why many members are looking for help (Figure 2)

- Consider how best to sell your ML idea to the board. The board must define the journey.

- It is tempting to hire data scientists when you start but often it makes sense to build the data platform first so data scientists can be productive.

- Prioritise commercial acumen for the data science team so they can focus on business value

- If you're not showing value from ML, stop doing it.

- There are big egos in data science, with a danger of the blind leading the blind. Leaders must set a strong vision and stay true to it.

- Don't talk about solutions too early. Take a step back from the technology and first consider the business proposition.

The take-outs from the break-outs

Session two: How do you best demonstrate ROI from ML investments - then bring the board with you?
To get the board on board, our groups felt these points deserved discussion.

- Tell the story of what you're trying to achieve in a way that makes sense to how commercial stakeholders think about the business, instead of a technical manner.

- Encourage stakeholders to be active in the discussion. Educate leadership, and give non-technical shareholders enough understanding about what is and isn't possible. Then offer them a magic wand and ask them to tell you what one thing would change.

- Take the time to think about how your strategy aligns or links with the big vision of the board

- Be pragmatic. Choose between the long and short term, and what you're delivering to what vision.

- Don't be afraid to fail fast.

- Being paranoid is good and helps you stay creative.

- As you aim to try new things and fail fast, don't be afraid to ask for help. An experienced consultant or implementation partner may get you further in a few weeks than a new graduate would in six months.

- Go back in history and leverage records of delivery to build trust with stakeholders.

- Be resilient—you won't get a yes the first time. Or maybe even the second or third time. But keep the focus on business value and be data-driven in your arguments.

- Avoid the buzz and show capability by tackling problems.

- Data is worth its weight in gold. Aim to build a solid data foundation that you can exploit and build your advanced techniques against.

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Our next ExecLeaders Forum is themed around sustainability. We hope you can join one of the following events:

Dublin, Ireland – 20 October 2021

London, UK – 3 November 2021

If you would like to attend, please email us to register your interest here:
exec-leaders-uki@amazon.com