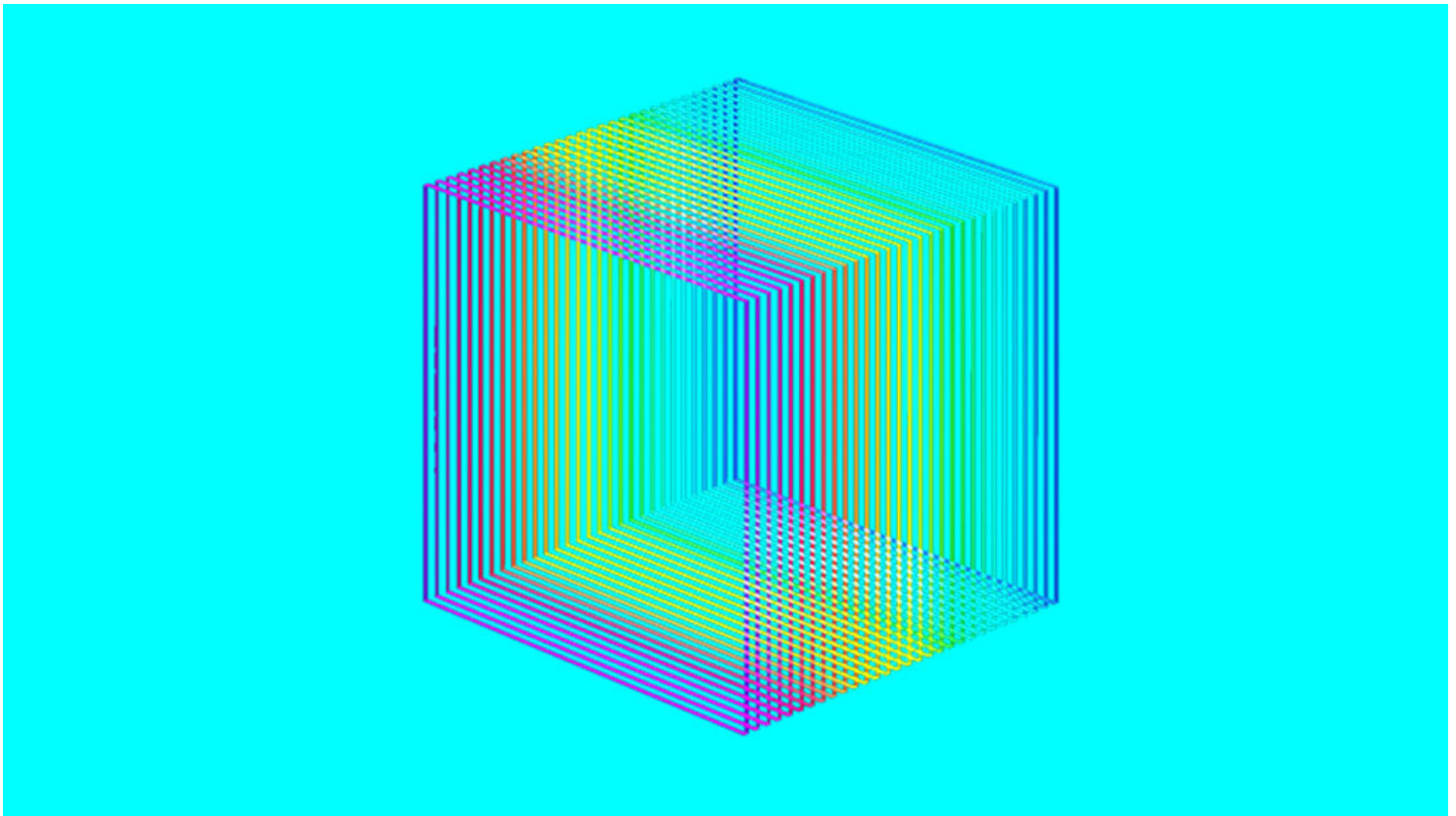


DEVELOPING EMPLOYEES

Which Data Skills Do You Actually Need? This 2×2 Matrix Will Tell You.

by Chris Littlewood

OCTOBER 18, 2018 **UPDATED** OCTOBER 23, 2018

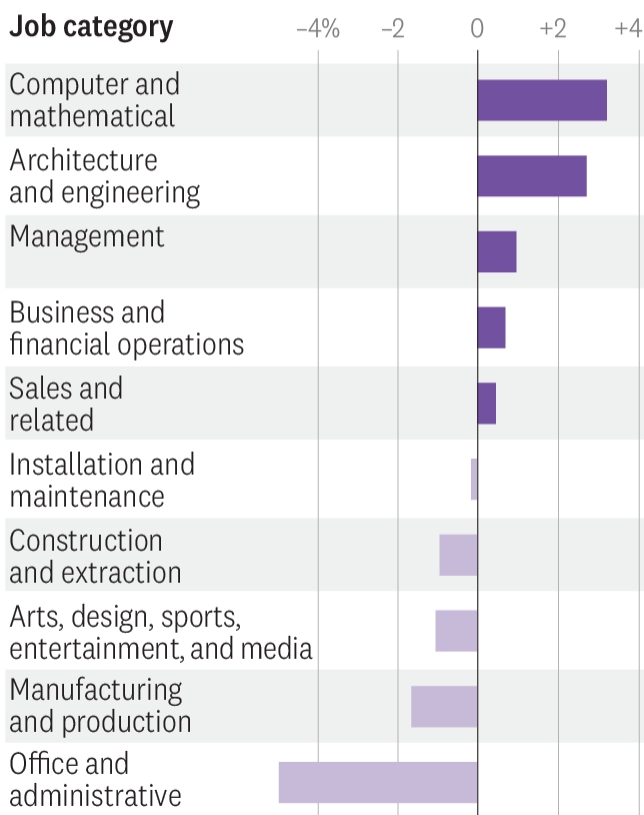


JORG GREUEL/GETTY IMAGES

Data skills – the skills to turn data into insight and action – are the driver of modern economies. According to the World Economic Forum, computing and mathematically-focused jobs are showing the strongest growth, at the expense of less quantitative roles.

Jobs Built on Data Skills Are Showing the Strongest Growth

Average compound employment annual growth rate %, 2015–2020



Source: World Economic Forum's "The Future of Jobs" survey, 2016

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So whether it's to maximize the part we play in data-driven economic growth, or simply to ensure that we and our teams remain relevant and employable, we need to think about transitioning to a more data-skewed skillset. But which skills should you focus on? Can most of us expect to keep pace with this trend ourselves, or would we be better off retreating to shrinking areas of the economy, leaving data skills to the specialists?

To help answer this question, we rebooted and adapted an approach we took to prioritizing Microsoft Excel skills according to the benefits and costs of acquiring them. We applied a time-utility analysis to the field of data skills. "Time" is time to learn – a proxy for the opportunity cost to you or your team of acquiring the skill. "Utility" is how much you're likely to need the skill, a proxy for the value it adds to the corporation, and your own career prospects.

Combine time and utility, and you get a simple

2x2 matrix with four quadrants:

- **Learn:** high utility, low time-to-learn. This is low hanging fruit that will add value for you and your team quickly.
- **Plan:** high utility, high time-to-learn. While this is valuable, acquiring this skill will mean prioritizing it ahead of other learning and activities. You need to be sure that it's worth the investment.
- **Browse:** low utility, low time-to-learn. You don't need this now, but it's easy to acquire so stay aware in case its utility increases.
- **Ignore:** low utility, high time-to-learn. You don't have the time for this.

Which Data Skills Should You Learn First?

Make the most of your limited learning time.

Very useful	Plan	Learn
Not useful	Ignore	Browse
	Time-consuming to acquire	Not time-consuming to acquire

Source: Filtered

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In order to help you decide where to focus your development effort, we have plotted key data skills against this framework. We longlisted skills associated with roles such as: business analyst, data analyst, data scientist, machine learning engineer, or growth hacker. We then prioritized them for impact based on how frequently they appear in job postings, press reports, and our own learner feedback. And finally, we coupled this with information on how difficult the skills are to learn – using time to competence as a metric and assessing the depth and breadth of each skill.

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[Scaling Your Team's Data Skills](#)

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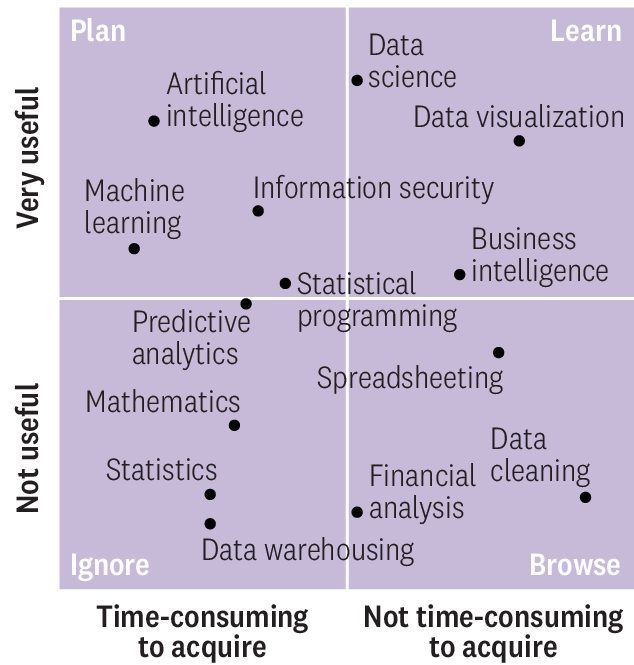
We did this for techniques, rather than for specific technologies: so, for machine learning rather than TensorFlow; for business intelligence rather than Microsoft Excel, etc. Once you've worked out which techniques are priorities in your context, you can then work out which specific software and associated skills best support them.

You can also apply this framework to your own context, where the impact of data skills might be different. Here are our results:

At Filtered, we found that constructing this matrix helped us to make hard decisions about where to focus: at first sight all the skills in our long-list seemed valuable. But realistically, we can only hope to move the needle on a few, at least in the short term. We concluded that the best return on investment in skills for our company was in data visualization, based on its high utility and low time to learn. We've already acted on our analysis and have just started to use Tableau to improve the way we present usage analysis to clients.

An Example of How to Plot Data Skills on a 2x2 Learning Matrix

How one company mapped its own internal learning needs.



Source: Analysis of internal data learning needs by Filtered

Try the matrix in your own company to help your team determine which data skills are most important for them to start learning now.

Chris Littlewood is the chief innovation & product officer of filtered.com, an edtech company that uses AI to lift productivity by making learning recommendations. Find him on Twitter @filtered_chris.

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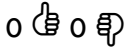
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29 COMMENTS

Simon S 9 hours ago

To make this article less outrageous, I suspect it would be very helpful to change the title. Making clear right from the beginning that this article explores a (possibly questionable) methodology by applying it to a specific company would probably attract less aggression, too. Somehow, the entire premise doesn't make sense without specifying a prior, or the current state of the company. But then again, maybe statistics is not worth thinking about? ;)

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