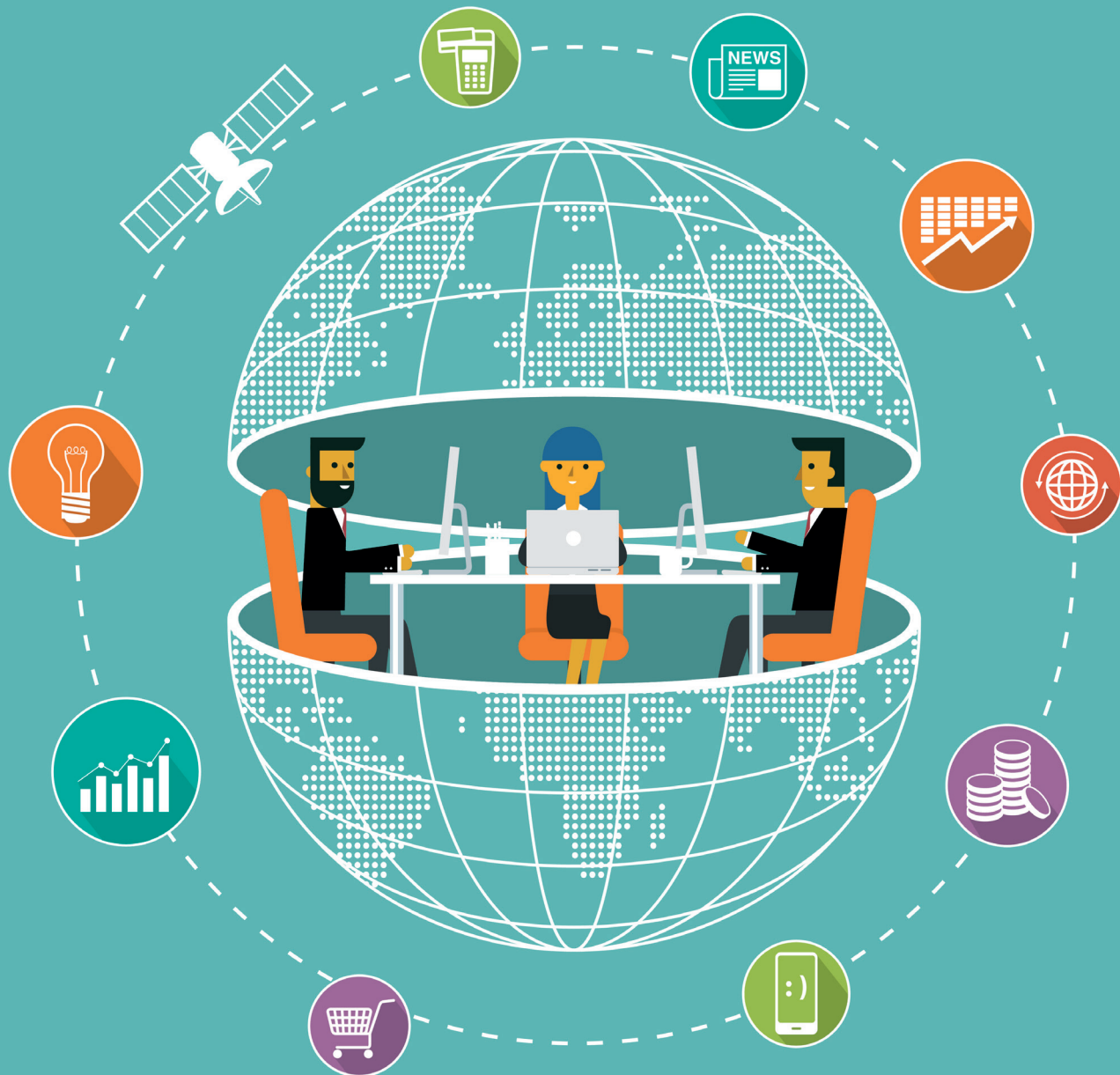


UNLOCKING OPERATIONAL ALPHA



Often-overlooked workflow management technology may hold the key to crucial collaboration

BY CARLY MINSKY

At the end of May, an astronomer in Seattle started to notice tiny spiders raining down from the ceiling with unnerving frequency. A week later, there were still spiders everywhere, crawling across the ceiling and dropping down onto researchers working below.

As yet, Jamie Lomax – the astronomer whose office has been monopolised by what she identified as zebra jumping spiders – does not have an explanation for the curious phenomenon. But the wider academic community has gained an unexpected nugget of knowledge: tiny jumping spiders can see the moon, and perhaps even resolve details like craters on the moon’s surface. This discovery resulted from the spontaneous collaboration between Lomax and a spider researcher at a different university, entirely facilitated by a web (excuse the pun) of connections on twitter.

After Lomax tweeted about her spider shower, another astronomer suggested she use lasers to direct the jumping spiders away, since “some jumping spiders will chase laser pointers like cats do”. Lomax’s colleague, Emily Levesque, was surprised to find that while the spiders did follow laser pointers, they were far more attracted to green lasers than red lasers. Soon enough a spider researcher on twitter copied in her colleague Nate Morehouse, who studies spider vision.

In addition to explaining jumping spiders’ heightened sensitivity to green light, Morehouse told the astronomers that jumping spiders are one of only three creatures with eyes shaped like Galilean telescopes. Naturally, with their shared information, the spider researchers and the astronomers together calculated that zebra jumping spiders can in principle see the moon, but not Jupiter or Mars.

Although there’s no reason why spider researchers couldn’t have independently found and used astronomy research to produce this result, and nothing necessarily preventing the astronomers from independently finding and using spider vision research for the same purpose, it’s highly unlikely that either group would have done so without the other. Crucially, the unique collaboration between two groups with different motivations, interests and knowledge resulted in a novel output that otherwise simply wouldn’t have been particularly relevant or practically efficient to produce.

And even more to the point: the collaboration likely wouldn’t have organically happened without Twitter’s publicly accessible social network – allowing for what astronomer Levesque calls a “‘science Twitter’ bat signal” used when “different fields need input from one another”.

There might be less incentive for collaboration in competitive endeavours like hedge fund trading – although arguably science is also not devoid of competitive forces – but the fundamental value of knowledge sharing and production across people with a diverse range of skills,

interests and experience still applies.

True collaboration is more than the process of crowdsourcing individual ideas or strategies – a method native to the internet era and harnessed by the likes of Quantopian and Numerai. A hedge fund that positions itself as a supreme being selecting or aggregating the work of individuals – none of whom engage with each other – is neither making use of nor promoting collaboration.

Essentially, collaboration involves the interaction of disparate ideas, resources, interests and skills. Even when collaborators are in the same city, even the same office, it often requires the right tools for this form of constructive engagement to happen and to add value.

Risk-manager turned entrepreneur Ken Akoundi, who worked at JP Morgan, Deutsche Bank and Optima Fund Management before moving across to technology providers, worries that despite employing workflow management concepts, investment offices are overlooking collaboration tools that could be a source of so-called ‘operational alpha’.

He writes in a paper: “Investment is a group activity, dependent on the input and interactions of many sources

and individuals. Yet, the collaboration tools available to the investment offices have been abysmal. The most widely used technologies for collaboration are still email, text, and the telephone.

“The most popular quantitative technology providers for the investment office have treated collaboration as an afterthought, addressed as a layer on top of the existing technology stack that enables the user to send textbased messages, or edit/add comments to a document that is emailed from point to

point. That is not collaboration.”

According to Akoundi, what is needed is a workflow tool designed specifically to foster collaboration, generic enough to be used without significant customisation but taking account of the specific workflows in asset management firms. This, he says, can be achieved through “process management” rather than project management.

“Collaboration must be treated as the essential building block of the investment office,” he says. “Any proposed solution must be ubiquitous, invisible, and complementary to human tasks. It must be designed for the investment office function and incorporate an understanding of basic human interactions, use the functionalities familiar to the investment staff, and replicate the stages followed by the investment processes, without an additional burden of learning a new application.”

For full disclosure: Akoundi is himself working on such a tool, and his paper arose from his market research. He doesn’t reveal any further details about how his product would work and slot invisibly in to existing operational systems.



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Collaboration software

Even though Akoundi rejects tools such as Slack for being too generic and project management-orientated, there is a precedent for a communication and information-sharing hub of this nature to quite organically promote true collaboration and add value, specifically in technology and development domains. Open-source software in part depends on platforms like GitHub which facilitate collaborative development remotely.

“Github is such a great tool; it has really popularised open-source and enabled sharing and use of open-source software,” says Ross Huelin, formerly investment and technology development manager at Jersey-based CTA Altis Partners, now co-founder and director of his own IT business.

He explains: “It’s a great opportunity to seek feedback on your tools, discover ways of improving them, and actually get them moved forward by a wider community. Since your work is scrutinised by a lot more people, you have to think quite carefully about how you build and improve and release changes to your software, which forces you to adopt really good practices, not to mention other people enhancing your software or building tools on top of it.”

Technology is the answer

Can these principles of collaboration, and the underlying technology that supports them, be applied more widely beyond software development and adopted internally as part of workflow management?

Nick Elprin, CEO of data science platform Domino Data Lab, is also concerned with this question. With respect to the data science that is increasingly part of investment research and strategising, Elprin believes collaboration is not as straightforward as for developers. In part he puts this down to cultural differences in the way developers and data scientists have historically worked. He does see an increasing uptake of centralised platforms which keep a full experimental record of how an idea was developed, what data and tools were used, who worked on it and all discussions relating to that idea. But ultimately, he agrees with Akoundi that hubs such as GitHub or Slack aren’t fit for purpose when applied to strategic parts of the business.

“Many of the common tools data scientists use were designed for software development, not data science,” he says. “While the two have many similarities, in the software development process, collaboration happens on code and the binaries that are output. In data science, the core unit of work is an experiment, which has results, and then can lead to a model. Code is part of this process, but it’s just one component that must be tracked for true collaboration along with what tools were used, what data was used, and who participated.”

Ultimately, and unlike software development which has a long history of a collaborative mindset, the problem

is that collaboration is often not a priority, despite an abstract understanding of the value it might bring. Elprin agrees with Akoundi that technology is the solution.

“Modern platforms offer benefits to individuals to incentivise work in the central platform, such as access to cloud hardware or streamlined software tool management, thereby overcoming this collective action problem that plagues many knowledge management initiatives,” he says.

A recent study published in *Applied Psychology* concluded, against received wisdom, that collaborative offices actually create mediocrity, not excellence. However, the explanation for this only adds weight to the argument that technical tools are needed for effective collaboration, since the study found specifically that it was the social dynamic created by unmediated cooperation that negatively impacted the process and output. Perhaps the right platform would deal with the detrimental effects, while retaining the value of collaboration.

The idea of “operational alpha” – although something of a buzzword – is a useful framework in which to view

collaboration. In fact Paul Rowady, founder and director of research for Alphacution Research Conservatory which measures operational alpha, believes that collaborative workflows are “among the most valuable opportunities in business today”. He has coined the term “human latency” as a measure of this in terms familiar to hedge funds.

Alphacution’s benchmarking framework identifies inefficiencies within specific trade workflows and cross workflow inefficiencies. It’s the latter, Rowady has found, that make up most of the missed opportunities for operational alpha. Cross-function, cross-workflow collaboration and harvesting unique and diverse sources of intelligence is essential if hedge funds are to continually identify new patterns and trade opportunities, he argues.

Like Akoundi and Elprin, he believes technology is the key to promoting collaboration.

“Without better tools and methods, there are natural impediments to efficient collaboration,” he says. “Technology needs to be designed to make new behaviors as easy as possible to adopt or provide an order of magnitude better functionality to compensate for the “cost” of behaviour modification.”

In essence, with the caveat that all three have an interest in saying so, Akoundi, Elprin and Rowady all agree that hedge funds’ quest for alpha demands a carefully calibrated tool to support and incentivise cooperation internally. Funnily enough, in their individual attempts to provide such a tool, the principles of collaboration are forgotten. But perhaps that only proves the point. ■



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