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The business school that thinks and lives in the future

The catalyst effect: how meta-knowledge can improve team performance

By *Julija N. Mell, Daan van Knippenberg and Wendy P. van Ginkel*

Effective teamwork is critical given the complexities of doing business today. However, it is all too often the case that teams fail to get the best out of the specialist knowledge they possess. Addressing this problem, new research shows that understanding who knows what within a team may improve its effectiveness.

Imagine that we have an idea for a new product. Is this truly a great idea or something better shelved? To make a good decision, we need a lot of information.

What is the market for this product? How can we manage its production? Are there any legal restrictions? Typically, when faced with such complex decisions, we know that more heads are better than one. A team is convened, made up of members who each specialise in one of many fields. We benefit from a larger pool of knowledge. And yet, we all know of teams that don't seem to make use of their pool of knowledge and thus fail to live up to their promise.

In a team, members who specialise in their own areas of expertise can combine their skills to create strong outcomes. For example, as a legal specialist, Tom does not need to know about the intricacies of production as long as he can rely on his fellow team member Anna to bring that knowledge to the table. The problem with this structure is that without effective communication, poor decision-making is likely.

For instance, if there is an upcoming change in national legislation on safety standards in production facilities then Tom's legal knowledge can only be meaningful in strategic

decision-making if it is combined with Anna's knowledge of the facility's currently available features.

The crucial asset for such a team to be effective is meta-knowledge. Meta-knowledge is knowledge *about other members' knowledge* – knowing “who knows what”. When members have meta-knowledge about each other, they can quickly access each other's information and recognise and combine relevant pieces of information. Thus, as a team, they can make better-informed decisions.

This way of sharing the cognitive labour is called a Transactive Memory System (TMS) and it is a very effective way to improve team decision-making. Until now, we knew only that it is better for a team (as a whole) to have more meta-knowledge – on average – than to have a little meta-knowledge.

However, we intuitively understand that the level of meta-knowledge can differ among team members. In today's workflows, it is common that teams assemble, dissolve, and re-assemble in temporary constellations. Thus, in any new constellation, some members may be more familiar with other members' skills and expertise than others.

Now let's imagine that we can spend some – limited – time and effort on bringing members up to speed

about each other's expertise at the outset of a team's formation. Should we spread our resources thinly, striving to ensure that each member has a least a little bit of meta-knowledge, or should we focus and make sure that at least one of our members gets a thorough and complete overview over our team's knowledge base? Our study suggests that, in some cases, the latter strategy might be the better one.

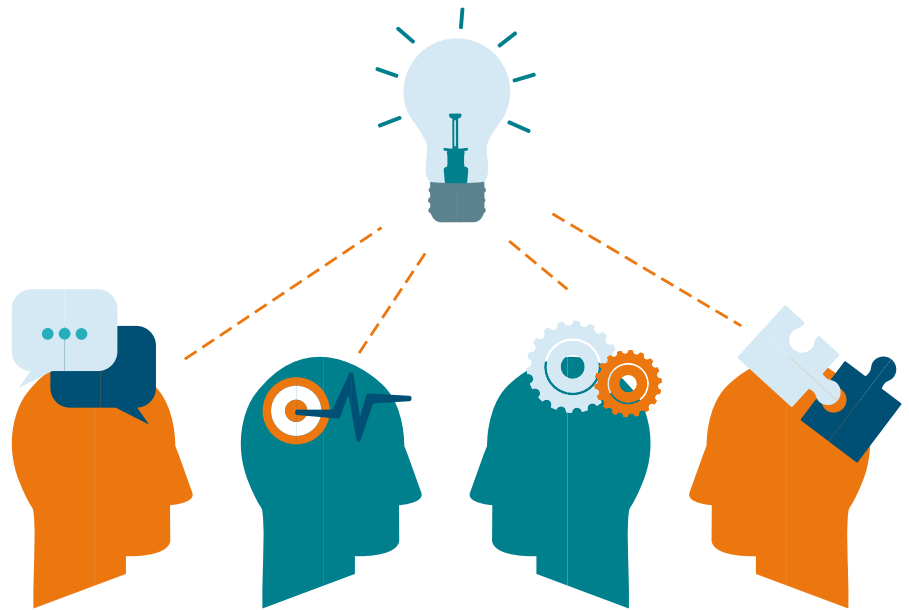
The reason is this: the more meta-knowledge a single person has, the more likely this person is to put it into action – using it to access other members' knowledge. And with that a team member who has a high level of meta-knowledge is

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Every part of business depends upon one thing: people, and their relationship to each other and the organisation in which they work. Understanding this, the education and research of RSM's Department of Organisation and Personnel Management focuses on this relationship using a strong interdisciplinary approach.

Research within the department has always been ahead of the curve, and pioneering faculty members work at the forefront of such “human” issues as diversity and leadership studies.

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likely to kick off a *Catalyst Effect*. This Catalyst Effect is prompted first by asking direct questions and, crucially, ensuring that other team members see the question being asked rather than asking it in a private conversation: ‘Peter, what is our financial situation with regards to this issue?’ The simple act of asking this question in front of other team members has three effects.

Naturally, the question is answered, and knowledge is contributed to the topic at hand. The second effect is that the rest of the team adds to their own meta-knowledge by understanding that Peter is the person to speak to about anything related to finance. And finally, it demonstrates to the rest of the team that asking questions – and knowing who to ask – is not only inevitable but also valuable. Thus, a culture of information sharing develops and over time the overall TMS of the team may grow stronger.

More broadly, focusing on raising the meta-knowledge of just one or a few members also has its risks – for example, if this team member leaves, a serious disruption in the team’s coordination can occur. However, as desirable as it may be to ensure a high level of meta-knowledge of *all* members, as soon as we think beyond a small team – and think about large teams, departments, organisations – we realise that knowledge coordination becomes incredibly complex.

Employees with relevant knowledge may be located not only on different floors of a single building but in multiple buildings, cities or even countries and continents. Knowing how to label

these scattered sources of knowledge, and how to access them efficiently, becomes a complex role that must be approached systematically to ensure organisational success.

And in such a context, having key individuals who specialise in meta-knowledge can be extremely valuable. Such managers of meta-knowledge can catalyse knowledge coordination not only by stimulating discussion but also by serving as a source of meta-knowledge to others, directing them to colleagues who have answers they are looking for. In this way, a team has a road map to success and a navigator to read it. ■

This article draws its inspiration from the paper *The catalyst effect: the impact of transactive memory system structure on team performance*, written by Julija N. Mell, Daan van Knippenberg and Wendy P. van Ginkel and published in

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