

Don't Let R&D Knowledge Walk Away: 5 Ways To Use AI to Retain Knowledge When Someone Leaves



LEGIT

It's the stuff of R&D manager's nightmares – a key team member pulls you aside to say “I'm moving on”.

To gain a competitive edge, R&D teams must put significant effort into finding and retaining the best employees possible. However, no matter what your company does to nurture your top talent, sometimes they leave your organization. AI can't stop people leaving but it can help you sleep easier at night.

The cost of an exit

The cost of losing an employee might be greater than you think.

A Deloitte study has found that the average expense to replace an entry-level employee can be up to **100%-150% of that employee's salary**. For a supervisory or senior role, that replacement cost could go as high as **150-200% of the annual salary**.

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Many factors contribute to this high cost, including the recruitment fee paid to recruiters, the time it takes to interview and hire, and the possibility of a demand of increased salary – the University of Pennsylvania has found that external hires demand 18-20% more in salary than internal hires. And while these direct, hard costs are intimidating, it's nothing compared to the indirect costs that result after losing an employee and the technical knowledge they have.

What makes your existing team so good at their jobs is the unique skills and knowledge that they have cultivated in their positions. When an employee leaves your company, they take that knowledge with them. That makes the investment in a knowledge platform and strategy worth every penny.

These are some of the indirect costs of an employee exit:

① **Lost projects**

Engineers, researchers and scientists love to invent, refine, and explore but they are less keen on documentation. How many solutions are being developed nowhere else but in someone's head until put on paper at the last possible moment? Unless projects and solutions to research problems are recorded early and often – there is a significant risk is that when someone goes, they take all of that work in progress with them.

② **Lost Thought Processes & Negative Knowledge**

Even if a R&D team member is dedicated to documenting solutions, they often don't record how they thought through a problem. This thought process is invaluable for getting inside the head of an engineer or scientist, to understand their solutions. When they leave, this teachable knowledge leaves with them.

Each time someone uses Google, they are essentially throwing away valuable data for the rest of the R&D team. If they look up a concept or piece of technical literature, if they review a patent or a paper, if they reject it as irrelevant or decide it's worth exploring further – none of this is currently accessible to the rest of the R&D team or those responsible for managing it. Yet it is highly valuable and teachable data.

Additionally, there is a huge amount of value in 'negative knowledge': a record of what didn't work or wasn't relevant. This is often as valuable for an efficient R&D team to ensure you don't keep on chasing dead ends. All of this gets lost when someone leaves as it remains in their heads.

③ Lost Expertise

Beyond the obvious loss of someone's expertise within their particular job function, some team members have a particularly deep domain expertise in certain areas - they are who you go to ask for input on a particular problem. You ask them questions like: *'is this new technology similar enough to what we are working on to have an application within our product line?'* or *'does this product look too similar something that's already been tried?'*

Often times these employees are experts in pattern matching - they are using their experience to determine the similarity or dissimilarity of technical concepts, products and ideas across domains and time. They use this ability to stop the team from reinventing the wheel.

This invaluable skill disappears when they've move on.

④ Lost Relational Knowledge

R&D team members don't just know about their own field and technical domains, they know how other people are connected to that domain - both within and outside the company.

MIT Sloan organizational research found that in R&D intensive industries, key team members possess critical relationships with academia and elsewhere that help the organization remain at the forefront of research. Senior management in the companies surveyed estimated in that if those team members left, the time required to re-create their capabilities — both their individual expertise and the trusted contacts they have with key scientific advisers — would be **at least five years**.

How to Protect Knowledge

Make knowledge sharing a priority

Implement a knowledge platform that is intuitive and easy to use. Consider making documentation and process updates part of employees' job descriptions. Foster an environment that encourages collaboration, coworking, and cross-training to facilitate the transfer of knowledge more seamlessly.

Legit's beautiful, intuitive UX was built by R&D teams for R&D teams, and is expressly designed to lower the barrier to invention and documentation – from brainstorm to implementation. With a **best in class NPS of 60**, R&D teams see an **8x increase** in the ideas that enter the R&D pipeline.

Keep a record of thought processes

Make sure you digitally store thought processes in an accessible format. Things like: what resources did a team member look through, what did they review in depth, what did they reject as irrelevant and why, how similar were their solutions to what solutions that have been tried before. Legit uses AI to store thought processes over time - making them become **storable**, **queryable**, and **actionable** even after an R&D team member has gone.

Capture not just what they thought but *how* they thought

Get R&D team members to interact with an AI model to train it. The model will then start to acquire a version of the pattern matching skill that is so valuable when ensure that an R&D project is going to be high impact.

Legit has built a matching engine to help R&D teams identify conceptual similarity between products and technologies. This is backed by a machine learning model that learns from each particular user interaction. The more you use it, the more expertise it captures that stays with the company.

Track the technologies and topics people have expertise in

Use AI to track technologies that people are currently working on and have worked on to build up a picture of people's expertise.

Legit understands R&D data at a conceptual level by extracting what topics people are working with rather than just keywords they use. The platform can be configured to automatically connect users based on shared or sought expertise to collaborate and break down knowledge silos.

This also solves a major challenge faced by new employees of a company. The newcomer's expertise is rarely known to the rest of the network, so he or she is rarely sought out. Legit can function as the central connector helping direct people to these peripheral members and telling others about their expertise.

Why Early Adopters of AI Will Win

Good AI solutions should provide value “out of the box” but the competitive advantage really compounds over time as models are trained and the system is personalized.

This is important because companies *used* to be able to "wait and watch" on technology. The risks of a bad deployment were often greater than the risks of missing out. In those days, once a product matured, you could adopt it and match the gains of those who implemented it early. First mover advantage didn't really exist. But with AI, you get a series of flywheels and the value compounds. If you buy the product 9 months after a competitor has tried it, you don't buy the same product you buy a product at square one and the competition has a whole three quarters on you that you may never be able to recoup. If you aren't taking the chance of rolling out AI tools and techniques in your organization, you are falling behind.

Some people think this is like a normal software selection. It isn't. It's much more existential than that.

Legit is a Cambridge-based company that makes AI-powered software for R&D teams, managers and C-suite level executives. More information available at legit.ai