

Beyond the Code: Leading Innovation from the Heart of Statistical Programming

Bhavesh S Patkar,
Executive Director, Syneos Health, India

INTRODUCTION

Over the last few years, the world of statistical programming has changed more than most of us could have imagined. We are dealing with new data sources, tighter timelines, smarter technologies and higher expectations from various stakeholders than ever before. What hasn't changed is the need for rigor and trust. But what has changed is the opportunity for programmers to lead innovation from within.

This paper is based on my experience building and leading a Global Biometrics hub that gradually evolved from being a delivery engine to becoming a genuine center of value addition. It is not a story about tools or technology alone but it's about people, purpose, and culture. The shift happened when we stopped asking "How do we deliver faster?" and started asking "How can we create more value?"

The goal of this paper is to share practical lessons for those who hold the real keys to driving cultural change on the ground.

BACKGROUND

For years, statistical programming teams were measured almost entirely by delivery metrics timeliness, quality, and compliance. And that worked, until the nature of trials changed. Decentralized models, real-world data, adaptive designs, and patient-centric approaches started to push the boundaries of how data flows through our systems.

At the same time, sponsors began expecting their partners not only to execute but to innovate. They wanted teams who could think ahead and who could spot inefficiencies, suggest automation, and bring in new ways of working.

When we looked honestly at ourselves, we realized that although we had incredibly talented programmers, their creativity was often buried under process. The transformation began with one simple belief: innovation is not a department; it's a mindset that can live in every programmer.

That belief shaped how we restructured teams, how we measured success, and how we led.

REIMAGINING THE ROLE OF STATISTICAL PROGRAMMERS

The biggest change we made was redefining what “value” means for a programming team. It wasn’t about the number of datasets or TLFs produced—it was about how those outputs improved clinical decision-making or made processes smarter.

We encouraged programmers to look at every task and ask: “Is there a better, faster, or more meaningful way to do this?”

One example stands out. A group of programmers automated a manual QC effort that used to take days of effort and reduced it by nearly half. But more importantly, it built confidence and freed up bandwidth for more meaningful work.

That project taught us something valuable: innovation doesn’t have to be revolutionary. Sometimes, it’s simply about improving something we already do consistently and at scale.

BUILDING A CULTURE OF INNOVATION

Culture was the real turning point. Tools can be bought but culture must be built.

We started by defining what innovation meant to us: curiosity, courage, and collaboration. And then we built small rituals to bring that to life.

Innovation Hackathons allowed programmers to experiment on anything they felt could make work easier. Within six months, we had over 20 ideas and prototypes; some small scripts, while some more elaborate ones which needed more investments. Three of them became part of our delivery model and one was used across all the client vendors. Perhaps most importantly, leaders began showing up differently.

Instead of asking, “Why did this fail?” we asked, “What did you learn?” When people feel trusted to explore, creativity follows naturally.

THE CREATIVITY EQUATION: BALANCING CHAOS AND ORDER

As teams became more confident experimenting, start reflecting on what truly fuels creativity in an operational environment like ours that depends on precision and compliance yet demands innovation.

The Creativity Equation is a great starting point to understand the impact of creativity over time.

$$\text{Creativity} = \text{Attempts} \times \text{Combinations} \times \text{Time} \times (\text{Chaos} / \text{Order})$$

Each element plays a role:

- Attempts remind us that creativity is a numbers game. The more ideas we test, the more likely something works.
- Combinations represent the magic of connecting unrelated thoughts; often across domains, functions, or technologies.
- Time acknowledges that innovation is iterative; it needs room to breathe and evolve.
- And finally, the Chaos / Order ratio captures the balance between structure and

spontaneity. Too much chaos and nothing lands; too much order and nothing new emerges.

Creativity flourishes not in the absence of structure, but in the right balance of it. Hackathons created the chaos, while standardization brought order.

HARNESSING GLOBAL TEAMS AND VENDORS

With global delivery models, innovation shouldn't stop at one site or team. Some of the best ideas came from places we least expected.

The lesson was clear: diversity drives innovation. When you create a network that values every contributor whether it is vendor or in-house, you can tap into more minds, more energy, and more ideas.

We also introduced a “global innovation panel” where teams could showcase solutions every year and the top ideas got a reward and also a chance to present their ideas to the client. The pride and ownership this created were as powerful as the tools themselves.

LEADERSHIP WITHOUT TITLES

Some of the most transformative ideas came from people without managerial titles and in many cases even from junior programmers who could ‘see’ things that the seniors couldn't.

We started highlighting these stories during monthly team meetings. The message was simple: you don't need a title to lead change.

Managers began shifting their roles from directing to enabling. Their job became to remove barriers, give visibility, and celebrate effort. That's when true empowerment took root.

HACKATHONS AND UPSKILLING: MAKING INNOVATION A HABIT

We realized that creativity needs rhythm. Hackathons became that rhythm for us.

Every year, we hosted internal hackathons that were short, focused events where teams tackled real challenges. The format was simple: simple problems, real impact, no hierarchy.

One of the selected ideas from one such event, ended up saving a significant number of hours annually for the client. But what mattered more was the sense of community it fostered with people from different countries working together for a common goal.

Alongside hackathons, we invested heavily in upskilling. We encouraged programmers to learn Python, R, and cloud-based tools—not as a mandate, but as a passport to the future. Upskilling became the foundation for innovation readiness.

MEASURING IMPACT DIFFERENTLY

If we wanted innovation to be real, we needed to measure it.

We created an Innovation Impact Framework that looked beyond delivery:

- Efficiency: Hours saved through automation.
- Adoption: How many projects used a new tool.
- Engagement: Participation in hackathons or idea challenges.
- Business impact: Faster delivery, fewer QC cycles, improved customer satisfaction.

Within the first year, these small changes added up to something big with multiple ideas receiving client and internal appreciations, over thousands of hours saved, and a noticeable rise in team engagement scores.

The takeaway was simple: when you measure innovation, people start taking ownership of it.

CONCLUSION

This journey taught us that innovation in statistical programming is not about coding faster but it's about thinking differently. It is about creating an environment where programmers feel empowered to question, experiment, and improve.

As leaders, we must invest consciously in this culture—show the vision clearly, stand by our teams when experiments fail, and make sure innovation is not an extra task but part of who we are.

When we do that, programmers stop being “service providers” and start becoming solution creators. That's when we truly go beyond the code.

REFERENCES

- de Villiers, Rouxelle (Ed.). The Handbook of Creativity & Innovation in Business: A Comprehensive Toolkit of Theory and Practice for Developing Creative Thinking Skills. Springer, 2022.
- Gino, Francesca. Rebel Talent: Why It Pays to Break the Rules at Work and in Life. 2018.
- Koning, Peter. Agile Leadership Toolkit: Learning to Thrive with Self-Managing Teams. 2019.
- Liker, Jeffrey K. The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer. 2004.
- Pink, Daniel H. Drive: The Surprising Truth About What Motivates Us. 2009.
- Porcini, Mauro; Noori, Indra; Laguarta, Ramon. The Human Side of Innovation: The Power of People in Love with People. Berrett-Koehler Publishers, 2022.
- Sutherland, Jeff. Scrum: The Art of Doing Twice the Work in Half the Time. 2014.
- Trompenaars, Fons; Woolliams, Peter. New Approaches to Creating a Culture of Innovation. Emerald Publishing, 2023.

CONTACT INFORMATION

Author Name: Bhavesh S. Patkar

Company: Syneos Health

Email: bhavesh.patkar@gmail.com

DISCLAIMER

The opinions expressed in this presentation and on the following slides are solely those of the presenter and not necessarily those of Syneos Health.

Syneos Health does not guarantee the accuracy or reliability of the information provided herein.

Brand and product names are trademarks of their respective companies.