



How to build an innovation nation

Innovation is essential if we are to have any hope of solving our biggest challenges – but as a society, we still need to get much better at generating, testing and scaling new solutions

RAVI GURUMURTHY
CEO, NESTA



NB. This essay is our lightly edited version of the transcript of Ravi's 20/30 Visions interview, which you can watch at www.bridgesfundmanagement/2030Visions.

If we want to raise the productivity of the economy, or if we want to tackle big intractable issues, the only way we're going to do that is through improving or generating new solutions; testing them rigorously; then really trying to deploy them at scale. And that's the essence of innovation.

People are actually innovating all the time. If you look at any teacher or social worker, for instance, they're constantly having to find workarounds to difficult issues. What we're not so good at is seeking out and understanding this innovation – so what are they doing that's different, and why is it working? Nor do we have many systematic processes to design, test and scale new solutions.

That's partly because of a lack of investment. It's partly because we haven't really had a culture of thinking about innovation. But it's also because innovation is hard: it's a fundamentally interdependent process that requires lots of different actors to do different things. And that's difficult to orchestrate.

Building more inclusive systems

Nesta focuses on innovation for social good. This might seem like a marginal issue; but if you think about education, or social care, or waste, these are all huge sectors of our economy. Unless we get them right, we won't get the whole economy right.

One of the projects we're working on is how to accelerate the trajectory towards net zero homes – for example

by moving more people from boilers to heat pumps.

This is a good example of how hard innovation can be. The heat pump is a very efficient technology: for every one unit of electricity you put in, it gives you three or four units of energy back. But it's challenging to deploy them at scale, for a number of reasons. One is cost – not just the inherent cost of the technology or installing it, but also the levies and taxes that push up the price of electricity. Another is the installer network: the various Government schemes to support the deployment of heat pumps have been so stop/ start that it creates uncertainty and risk for suppliers; so they don't bother getting trained up.

At Nesta, we're working on various research experiments, on-the-ground trials, and new business ventures to help address this. One is looking at how to reduce the cost of installing a heat pump, by analysing all the data from previous installations to try and find savings. We're also looking at a personalised heat cost estimation tool, to empower consumers. And we're building a business designed to shorten the time and cost of doing the survey you need to get a heat pump installed.

Another big focus of ours is health, and in particular obesity. Obesity is a massive cost to the UK economy: Frontier Economics puts it at £54bn, which is about 3% of GDP. In our view, the way to solve this problem is not through individual dieting programmes; relying on individual willpower to shift food intake clearly doesn't work.

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It's proving difficult to deploy heat pumps at scale
(Photo by Kristoferb at English Wikipedia)



What we need to do is try and reformulate foods, to make them less calorific, and shift the food environment so it's easy to live a healthier life.

A good example of how this can work is the sugar tax, which was introduced by George Osborne. It was deliberately tiered in such a way that all the soft drink manufacturers basically reformulated their drinks and took out sugar, to evade the tax. So it wasn't a great tax-raising measure; but it was a really good way of stimulating the redesign of drinks. That's using taxes and regulations in a smart way: to change the behaviour not of consumers, but of those making the products.

What future do we want?

So how can Government better support innovation?

A good metaphor for innovation is evolution. Lots of seeds get planted; then you have a fitness mechanism where the best survive, and then you have a amplification mechanism, where the best really grow.

So the first challenge is sewing enough seeds – making sure there's enough investment both in basic R&D, and in later stage financing of new ideas. This will happen naturally in areas where there is a clear commercial incentive.

But in areas where there's market failure, Government needs to correct that and compensate, maybe even change the structure of the industry. Sometimes long-dated regulation can drive investment in early-stage idea generation, and particularly the commercialisation of research.

Of course, engaging governments in this kind of long-term thinking is not easy. Particularly in a world of multiple crises, time horizons become very short. And because we have a 'winner takes all' political system in the UK, it's relatively easy for different governments to introduce new legislation and change policy frameworks.

This stop/start approach is really fatal to innovation, because it creates so much uncertainty.

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The so-called 'sugar tax' led to many soft drink manufacturers reformulating their products to take out sugar



There is one area where the Government is set up well to make serious long-term decisions: net zero. The advantage we have here is that there's a deadline – we have to get to net zero by 2050 – so it's encouraged a degree of long-term planning that you don't see in most other policy areas. We have a Climate Change Committee, which recommends targets 10/20 years out, and suggests where to focus. So Government then has to think about the regulation and taxes and policies required to drive those changes.

Unfortunately, we're not applying the same approach to all these other issues. Take obesity: if we really want to remove this £54bn drag on the economy, we need to be taking a decade-long view. How do we reformulate products? How do we shift portion sizes? How do we change what retailers are stocking? This would benefit from an institution similar to the Climate Change Committee, but for obesity.

A huge leap forward

The second way Government can help is by creating this fitness mechanism. A good example is the National Institute of Clinical Excellence, an institution that is constantly asking which drug treatments should get funded. Over the last ten years, there have been a number of "What Works" centres launched that are trying to do something similar in areas like education – so asking what actually works, and what we should be doing more of. That's what we need in every sector: a way of weeding out the good from the bad.

Then the third area where Government can help is in scaling. Regulation has a role to play here too, in terms of accelerating good ideas. For example, the switch to condensing boilers only took about 12 years, because Govern-

ment regulated and said all new boilers had to be condensing. But it's also about things like training public service professionals, so we are constantly drip-feeding the latest ideas through.

Is this kind of change achievable? In areas where there is clear political consensus, like net zero, I'm very optimistic. It will be harder in areas like obesity, where you can get into political issues around nanny state-ism.

But if I think about the three big challenges we focus on at Nesta – healthy life (particularly obesity); a fair start (how we narrow the gap between children on free school meals and the average), and home decarbonisation – we only chose those challenges because we thought each one was genuinely tractable. Yes, they're incredibly hard. But these are definitely soluble issues. With the right policy environment, we can make a lot of progress in the next decade.

Ravi Gurumurthy is the chief executive of Nesta, the UK's innovation agency for social good.

He was previously with the International Rescue Committee, where he co-founded the Airbel Impact Lab and was responsible for designing, testing and scaling products and services for people affected by crisis in over 40 countries.

Before that, Ravi held a number of roles in the UK Government, including Director of Strategy at the UK's Department of Energy and Climate Change and as a strategic advisor to the Foreign Secretary. He led a number of major social and environmental reforms, including the development of the world's first legally-binding carbon emissions targets and the integration of children's services.



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