

IMPACT:

GLOBAL

The decider

Otago's Professor Paul Hansen is one of the dynamos behind powerful software that for 22 years has been helping individuals and organisations make important decisions.



In the normal scheme of things, op-shop devotee Professor Paul Hansen (Economics), wouldn't look twice at chic Scandinavian furniture. But he will always reserve a special spot on the top shelf of his memory bank for a stylish IKEA sofa – one that played a crucial role in the birth of an innovative decision-making software company called 1000minds.

The sofa incident happened in 2001, when Hansen was on sabbatical at the Stockholm School of Economics. Having reluctantly agreed to accompany his then-wife on a furniture-ogling trip, he used their cycle journey to chew on work thoughts. That's when his eureka moment hit.

"I was biking to IKEA on autopilot and thinking about this problem that had been on my mind for six years, when I suddenly saw the mathematical solution," he says. "To the detriment of my marriage, I spent the next eight weeks on an IKEA couch in our Stockholm apartment, gibbering away developing the proof. My poor wife – it was our first time in Europe, so she wanted to go and explore. It's not good for a relationship, is it? But I was obsessed."

Looking back on it now, Hansen thinks this was the biggest moment of his life. "If I had the slightest religious bone in my body – which I don't – I would've said God spoke to me. People in history have sat up on hills and starved themselves to get that sort of inspiration."

Unlike those hungry hill-sitters, Hansen had a full belly and a nice comfy couch to help power his mental gymnastics. He nixed the basic proof on the back of an A3 envelope. "It was covered in scribbles, eraser marks, coffee, beer, dribbles, tears."

Realising he needed help to breathe life into his rudimentary solution, he got in touch with Franz Ombler. "He's a genius, a computer expert par excellence, and a polymath who is curious and interested in elegant questions."

The two had met five years earlier when Hansen was seconded to work at the Treasury; Ombler was running the IT section there. "We were both from Dunedin, so we had that in common, but he's a quiet, thoughtful person and I'm just a raver."

It took the pair "years and years of magical insanity" to generalise the Swedish epiphany and grow it into the elegant decision-making software it is today (Hansen's 'support furniture' for this phase of mental gymnastics? A shabby sofa in Maitland Street, Dunedin).

Their invention: PAPRIKA – a method for determining weights on criteria, representing people's preferences. This became the heart of 1000minds software. Launched in 2003, its target audience was the health sector. Since completing his PhD in health economics in 1994, Hansen's research gaze has been trained on Multi-Criteria Decision-Making – a decision science that involves prioritising or choosing from competing alternatives or individuals, based on considering multiple criteria.

Motivated by the depressing state of Aotearoa New Zealand's health system in the 1990s with its many arbitrary patient prioritisation decisions, Hansen wanted to affect change. "It was a huge political football back then – clinicians were up in arms saying they weren't going to use the system anymore because it was producing unfair outcomes. There were front page stories about it."

When they first took their software to market, there was a lot of pushback. Hansen thinks he knows why. "I walked in as some brash, surfer-economist in jandals and said: 'Your decision-making needs to be improved and you're possibly putting patients' lives in danger.'"

Hansen and Ombler eventually got their big break in 2004 when the Ministry of Health started using 1000minds to rank patients for operations. They were thrilled to see their software baby out in the world and flourishing.

Their list of health sector clients has grown exponentially ever since – including the likes of the World Health Organization, which uses 1000minds to rank the nastiest antibiotic-resistant diseases so researchers know which to tackle first.

Closer to home, the software played a crucial role in creating a system for prioritising COVID-19 patients for intensive care – which, thankfully, didn't need to be used. Hansen recalls the sobering high-

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Professor Paul Hansen

stakes meetings that took place at Dunedin Hospital. "The staff were freaking out. They had seven ventilators for the whole of Dunedin. We worked with experts to come up with a set of criteria and weights that would be prioritised to help with deciding who would get put on ventilation and who wouldn't. I was actually in tears; I was so shocked. It felt like something out of a horror movie."

1000minds quickly proved useful outside the health sector too, offering up decision-making and conjoint analysis support to those in business, government, nonprofit and academic spheres.

30+

patient prioritisation systems for New Zealand

250

clients since 2004

15

innovation awards

It even won Google's attention. The 1000minds founders were flown to the company's Californian headquarters in 2014 to install their software. Hansen bought a pair of red sneakers from The Warehouse for the occasion. "I thought I'd better wear something Google-esque because I'd seen that movie *The Internship* and I looked a bit like Owen Wilson."

The software has also proved an indispensable tool for researchers, yielding upwards of 1,250 academic projects and publications from more than 700 universities and research institutions worldwide.

Unsurprisingly, the innovation awards have piled up over the last two decades (15 and counting). Most recently their new AI assistant was a finalist for a New Zealand Hi-Tech Award in 2024.

There are now nine people employed in 1000minds, including four in the USA and Ukraine. But it has might at its core. "None of this would've been possible without Franz – and also Julian Moller (both of whom are Otago alumni). It's a team effort. It's an Otago success story."

Hansen loves this quote from Pythagoras: "Choices are the hinges of destiny."

"We're trying to help people make better decisions – from the mundane to the momentous. There's nothing more important in life than the decisions we make."

And he should know. Had this jandalled, entrepreneurial economist not opted to hop on his bike and shop for Scandinavian furniture back in 2001, the world's decision-making prowess may have been all the poorer.

Professor Paul Hansen:
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Photos: Graham Warman

