

UPPING THE RUN RATE

Econometrics, Cricket and Why Gary Hogan is Excited About APR.Intern



Melbourne Enterprise Professor Gary Hogan AM, CSC recently joined AMSI to lead APR.Intern as it moves into a new phase of industry-PhD Research engagement. AMSI Update talked to him about what he brings to the table.

YOU HAVE WORKED IN DEFENCE, HIGHER EDUCATION AND GOVERNMENT. TELL US ABOUT YOUR ROLES TO-DATE?

Sure, I'd be delighted to. As you pointed out, the bulk of my career has been as a military intelligence officer (Yes, I've heard all the jokes!). The private sector calls it risk management, but it's also got bits of data analytics, parametric science, behavioural science, process optimisation, systems engineering, advanced manufacturing, cyber security, cryptography, satellite sensing, threat modelling and a bunch of other cool stuff like predictive analysis, alternative futures and imagineering.

Of course, I've worked extensively within the machinery of government, at both federal and state levels. But I think I learned more about the imperatives which drive government decision-making from the outside looking in, through the various reviews of departmental processes I did as Senior Adviser National Security with professional services firm KPMG.

HOW DO YOU THINK THIS EXPERIENCE WILL INFORM YOUR ROLE AT AMSI?

So, it's like this: throughout my military career, there were times when I experienced extreme levels of discomfort, whether due to rebel insurgents on Bougainville, or extremist terrorists in Southeast Asia, or conventional forces in the Middle East.

Interestingly, I noticed each time that fear was not manifest when ⇨

I HAVE THIS AMAZING OPPORTUNITY TO ENRICH 1200 LIVES, TO TRANSFORM 1200 FUTURES, TO DELIVER INNOVATION AND EFFICIENCIES INTO HUNDREDS OF AUSTRALIAN BUSINESSES, NOT-FOR-PROFITS AND GOVERNMENT AGENCIES

danger materialised. I guess my Neanderthal ancestors must have been those who stood and fought the sabre-tooth tigers; probably on a dare...or because they were hungry...or had discovered the fermentation process...maybe all three.

Anyway, I can honestly say the time in my life when I experienced the most fear, was during the struggle to recreate my identity after leaving the Defence Force. I found myself flailing to realign my skills to the outside world, with no compass to guide me through some rocky shoals. The implications for my self-esteem, my self-confidence, the fear of not making mortgage payments, of not giving my kids the start in life I had dreamed of giving them – the fear of being unable to readjust was truly terrifying.

I imagine my anxiety was much like the PhD researcher at her career crossroads, searching for an illuminated pathway to the real world, just like I did. APR.Intern provides a solid platform for taking that first giant leap from acquiring knowledge to gaining employment – it serves a huge purpose in that respect.

So, what do I bring to the table from my past experiences, you ask?

I bring a consuming passion for co-creating with industry the conditions for incredibly smart and talented Australian citizens and future citizens to convert the sweat, tears and time they've invested in their PhD study, into sustainable employment.

When I first saw the APR.Intern logo, I had a *Rorschach Test* moment – you know, those ink blot tests. I saw a doorway, with the door opening into a brighter beyond. Can you see that, too? That's how I saw it – and that has shaped my response to the program ever since.

If any of your readers think the APR.Intern program is about anything other than creating jobs, then they probably don't pay tax. Or else they're endearingly naïve and I'd like to sell them a large bridge in Sydney...

Governments spend piles of public monies to create jobs.

So, why do I consider APR.Intern such a sensible piece of public policy?

Let's consider the following facts:

- In the 18 months since it received Australian Government funding in July 2017, APR.Intern has placed almost 200 PhD interns into Industry research projects
- On the current trendline, 35 per cent of those PhD interns eligible to work get employed by their Industry sponsors – I happen to think this percentage will increase as internship numbers grow
- The reputable employment research site, payscale.com, places

the average salary of a PhD graduate at \$100,000 p.a. – I think this is too skinny, but who am I to gainsay payscale.com

- According to the Australian Tax Office, an employee on \$100,000 pa, will be liable for PAYG income tax of \$25,000 p.a. and a Medicare Levy of \$2000 p.a. – total \$27,000 p.a. directly into government revenues each year, from every co-created PhD job from APR.Intern
- On top of that, increased Industry productivity usually translates into higher revenues, so company taxes will be traveling north as well
- The incredibly attractive 50 per cent rebate to the industry partner is a lot cleaner and easier to administer than the red tape of some other government schemes, such as R&D tax credits
- By the end of 2020, when Australian Government funding for APR.Intern will be reviewed and either continued or discontinued, the program is on track to co-create 350 jobs with industry for Australian PhD graduates
- Though I can't say for certain how many of these jobs would only have been created through APR.Intern, I can say for certain that APR.Intern is a crucial catalyst in creating the conditions for these jobs to emerge

Of course, an econometrician would view these numbers differently to a mathematician.

The econometrician would come up with a bunch of clever algorithms to show how many other jobs are created by each \$100,000 p.a. job, from hairdressers, to restaurateurs, to primary producers, to construction workers.

But I'm no econometrician, so you'll just have to stick with my conservative calculations...Class dismissed!

WHAT EXCITES YOU MOST ABOUT THE APR.INTERN PROGRAM?

Well, I went through my six years of High School in Sydney, at Punchbowl Boys high school. My father didn't finish high school and his father never even went to school.

So, for me, education has been the lifelong gift that has unlocked every career door I've ever entered. Nowadays I get to help unlock those same doors for some of the brightest minds in the country, including Australians-to-be, powered by their Australian industry sponsors. I never take that privilege for granted. Ever.

The APR.Intern program is Australia's only government-sponsored, multi-sector, road-tested and proven mechanism for best practice industry-PhD research engagement. The opportunity to constantly improve and future-proof this national model for matching industry need and academic offering is enormously exciting!

The opportunity to be part of APR.Intern speaks to my higher self. ⇨

I've heard my job described as placing around 1200 interns into industry over the next two years or so.

But that's not how I see it. To my mind, I have this amazing opportunity to enrich 1200 lives, to transform 1200 futures, to deliver innovation and efficiencies into hundreds of Australian businesses, not-for-profits and government agencies.

When I'm asked, how many lives did you change this week? – I can actually point to a quantum that is rising exponentially.

But I'm more excited by something else... weirdly enough, I actually love hearing how impossible it will be to secure internships for over 1200 PhD candidates in the next two years.

Those who doubt these internships can be delivered have obviously never met the amazing team I have the privilege to lead.

So, APR.Intern has two years to place over 1200 internships. 2020 is a leap year. So we have 731 days, or 17,544 hours, or 1,052,640 minutes to achieve our objective.

Each one of those million minutes is vital; my amazing colleagues are straining at their crampons to climb the mountain together – that excites me to no end!

YOUR ROLE IS TO DRIVE HIGH LEVEL PUBLIC AND PRIVATE SECTOR ENGAGEMENT. WHERE WILL YOU BE CONCENTRATING YOUR EFFORTS?

Yep, as you suggest a significant part of my role is to create awareness and excitement around the program at the big end of town, among the big banks, professional services firms, finance and superannuation funds, government agencies like AUSTRAC and the ATO, energy providers, Telcos, ports and harbours, transport and logistics, engineering and construction, infrastructure operators, defence industry primes, the health sector, livestock and agriculture collectives, the airline industry and a whole bunch more.

But I'm conscious this needs to be kept in perspective. Am I allowed to use a cricket metaphor? Sorry, I'm a cricket tragic.

In the last 18 months, APR.Intern has been playing Test cricket – doing an impressive job of hitting some crowd-pleasing boundaries; but mainly ticking over the run rate with singles off every third or fourth ball. And there are very good reasons for that; building a versatile Test side and trialling batters and bowlers in the nets takes patience and time. Working out team tactics, batting order and optimal field placements requires trial and error.

But in 2019, APR.Intern is going to transition from five-day Test cricket to ODIs and the Big Bash League – a bit riskier sure, but relying more on fours and sixes, to push the run rate along.

But we can't take our eye off the value of the singles we need to keep hitting in the SME sector. Ricky Ponting is the most prolific run-making machine in Australian cricket history, but he still got more of his 13,378 Test runs from singles than from boundaries!

So, where do I see myself concentrating my efforts? On upping the run rate, certainly. But also on about a dozen other things as well, like

monitoring how best to join up the supply and demand ends of the delivery platform.

WHAT ARE THE KEY ISSUES IN TERMS OF INCREASING ENGAGEMENT?

My decades of service in the great game of intelligence have produced quite a "glass-half-empty" attitude to things, to dig for the downside, to assume that every silver lining has a cloud. And that has influenced how I see many things.

Do I believe Team APR.Intern can and will drive increased engagement among industry sponsors and PhD researchers? Well, of course I do! I've been tinkering under the hood of APR.Intern now for six months and it seems that every party to the program – government, the taxpayer, universities, PhD students and their supervisors, Australia's knowledge economy and innovation sector, and the AMSI joint venture of participating universities itself – gets a serious drink

from it; and that's the secret to any successful negotiation and every enduring business relationship.

So, where do I see the unintended consequences lurking? I guess I just have an uneasy feeling that we could become victims of our own success. For a start, my team and I take very seriously our duty of care towards those young Australians and Australians-to-be who place their trust in the APR.Intern program.

As we now aim to increase our engagement with both the supply side (universities) and the demand side (industry,

government and commerce) by a degree of magnitude, with the intent of expanding participant numbers exponentially, we will need – commensurately – to increase the degree to which we manage and monitor those participants.

We need to ensure that every PhD researcher, every industry partner, enjoys results that exceed their expectations, within a program that delivers an elegant user experience for both sides. We can't cut corners on this – our reputation is critical to the sustainability of our unique delivery model.

We'll need to ensure that PhD researchers and industry sponsors we bring together, leave the program as active ambassadors and advocates for APR.Intern – research shows that a satisfied client will influence eight others; and research shows that a dissatisfied client will influence eight others!

So ensuring best practice oversight and support for 1200 interns over the next two years will be a key consequence of our strategic ambition to increase engagement and drive participation rates through the roof.

We fully anticipate we'll need to test and adjust a few things to cope with the rapid growth of the APR.Intern program. On balance, though, this is the better problem to have.

WE NEED TO ENSURE THAT EVERY PHD RESEARCHER, EVERY INDUSTRY PARTNER, ENJOYS RESULTS THAT EXCEED THEIR EXPECTATIONS

Gary Hogan AM, CSC and Melbourne Enterprise Professor, joined AMSI in October 2018 as Director of the APR.Intern program