

Kia ora,

Introduction

I have been working as a scientific editor since 2008 via my company Scientific Manuscripts Ltd. Providing administrative support was the aspect of the scientific process that led me to start up my business after my Doctoral studies. I saw my supervisors spending long hours at their desks and little time interacting in the laboratory or with other scientists (beyond digital platforms). Indeed, my first work was in providing assistance to my supervisors while I was on maternity leave with my first child. This led me to bring other parents on leave in as subcontractors, so that they could assist me with a growing number of clients as my business developed. This system worked well prior to the growth of our family which has since then occupied me to a greater extent. Over the past 14 years, my work has evolved from assisting with manuscript completion to consulting for Endeavour Research Programme and Smart Idea funding bids. I commenced funding bid work in 2012 and have been involved in each funding round since then, with the exception of two years in 2014 and 2015.

Funding Applications

Since 2012, I have seen the funding bid templates evolve for the better, as more pertinent questions were asked of the researchers presenting their science. However, addressing this content is often a very challenging task for scientists, as they are seldom required to present their work in such a way that the critical elements that are truly beneficial for NZ are evaluated. It requires them to view their scientific contributions through a much broader lens. So, while scientists are regularly presenting the merits of their work to others when they communicate it across general platforms, they are really pushed when asked to critically evaluate their work in terms of the assets it will deliver to NZ Inc., and the timeframe and mechanism by which this delivery will occur. Their expertise is more suited to creating a sound workplan and presenting the science behind this, however, the depth at which this is focussed also often presents challenges for them with regard to the level of detail they should include. As such, a clear and concise pathway to execution and delivery is not easily established, especially with so many contributing parties, not to mention the degree of project management required to bring these parties together into a cohesive team. Many of these bids come so close to completion to a high degree of excellence, but remain stymied by a few minor issues (or fatal flaws) which cannot be resolved in the timeframe scientists tend to allow to get these bids completed. Finally, if the presented work does not have the correct political directionality, it once again can fall short of any funding opportunities.

While seeking this high degree of excellence is tremendously beneficial to NZ Inc., in that the funded science has great potential to serve NZ well, the unfunded majority constitute a terrible waste of highly competent man-hours spent on unproductive administrative tasks. Not surprisingly, the bulk of the bid writing work I have been involved in over the past 10 years has been fruitless for the scientists I have assisted, beyond providing them with the skills to produce higher quality proposals in the future. This is not due to a lack of calibre on the part of those involved in this process, but rather to the extreme level of competition that ensures only the very best proceed.

Administrative Support

From my point of view, I can see that there is a skills deficiency in many scientists with regard to envisaging and presenting their work in a way that focusses on delivering true benefits for NZ. Taking this further to implementation requires links with industry, which are often well developed through the service model of the CRIs and other industry-associated bodies. Thus, I feel that there is strength in the support the CRIs offer to their scientists, that, in my experience, seems to be lacking in University systems. I feel that, with regard to whatever form the system takes going forward, a real win for science in general would be to ensure that all scientists have access to administrative support for the provision of assistance with specialised tasks, such as editing and pitching their content appropriately (in my case), but also in VM support and consultation, IP protection, identifying relevant government goals and signals, programme implementation, linkages with industry, etc. This would allow scientists more time to excel in that which they specialise in, and hopefully to grow in other areas, while ensuring there were equal opportunities across the science system to enable the delivery of scientific excellence via platforms like the Endeavour Fund or similar. It could also help ensure that the science outcomes from each programme are in fact delivered via a productivity pipeline, with dedicated specialists assigned to support each programme through to completion and driving ongoing success.

This could also be a great way to utilise human resources that are not able to be otherwise deployed in the science sector. In the case of the subcontractors I have engaged during times of excess work flow, this can include retired scientist specialists, people in parental leave, students who are looking for work to support their studies, and scientists who find themselves out of a contract due to funding cessation in their area, however, it would also need to include a cohort of mentors or leaders in each area to support both transient personnel and emerging new talent in each specialist area. This could take the form of an administrative body to bring people in and engage them in areas appropriate to their skill levels and experience, and could provide a variety of long- or short-term positions that could be rapidly filled as required, if it was well-orchestrated (think: Uber for science).

This system provides an opportunity for all science-skilled personnel to remain current in their field, even when they are not employed in a full-time capacity. It also alleviates the pressure full-time scientists experience when trying to deliver on all things, without the support of a capable team they can defer work to. I had envisaged this for my business in the early stages, and it has to a certain extent delivered on this vision, however, I have not grown it much since its inception due to time constraints, as I have willingly given my time up to near full-time parenting.

While upskilling scientists through professional development in such administrative areas is great in that it provides them with wider understanding and the skills required to undertake and complete all tasks associated with their position, it also means their time ends up being spread very thin as they endeavour to achieve everything by themselves. Ensuring that scientists are aware of the tools at their disposal in this regard is critical, however, as even within the well-supported CRI system, it is not uncommon for scientists to either be unaware of the resources they can call on for assistance when required, or having the inclination to do so when they clearly need it. I would hope that having a highly functional mechanism that provide scientists quality support that they can rely on would enable greater specialisation with the science sector for those employed within it and optimise the working conditions for the greatest minds among us, so that they are freed from their administrative burden and can perform optimally at their creative endeavours.

Vision Mātauranga

I know that realising VM has always been difficult for scientists who have come through the system prior to its only very recent inclusion to an adequate level in the funding process. Much like the administrative support required to help enable scientists to view their work in a way that contributes true benefits to NZ, at least equivalent amounts of support is required for scientists to learn the Māori world view and how their science fits into it. This requires more than tokenism and inclusion; it requires integration of Māori (via Te Reo and Te Ao) into the NZ science system, including how it is taught to early career scientists at university level (and perhaps secondary school level) and how it is represented in daily operations within the laboratory space.

Early career scientists

Beyond opening up a greater diversity of science positions available through administrative support, I wonder if greater opportunities for early career scientists could be achieved via a future problem solving focus that deals with critically important, niche goals that are approached from a broad multidisciplinary standpoint. This could be effected through a World Cafe style process that enables promising young people from broad backgrounds to generate a variety of ideas and then refines these ideas through more experienced panels to identify candidates with strong potential going forward. Helen Anderson, during her time as Chief Executive of MoRST from 2004-2010, created an interesting concept plan for this through The Oxygen Group, which could be used as an exemplar. This was a cohort of leading early career scientists who eventually went on to chair a panel at a conference that included a highly diverse group of scientists, in order to generate discussion and canvas the participants for ideas on the future of science in NZ and the challenges it faces. As an attendee at the conference, I did recall the potential it had for bringing positive change to the system, should any of these findings be realised. This process would have been similar to that which you are undertaking now, but I wonder if it could be reformatted to try to solve many of the pressing current social and environmental issues arising in NZ. If support was provided for any selected young scientists tasked with taking their ideas further, this would provide an incredible opportunity for them to grow rapidly in new fields.

Summary

In summary, my experience suggests that support for scientists, either in the form of specialised administrative bodies that provide them with access to areas of expertise in which they are lacking, or in the form of professional development that enables them to become proficient in key administrative areas, would add greatly to the overall efficiency and equality of the science system. I feel that, from my perspective, enabling science teams to be comprised of a range of individuals with diverse skills and experience would be preferable over professional development that enables one person to do all things. This could also create a greater range of career opportunities within the science system for early-, mid-, and late-career scientists to diversify into.

I hope you find some of this feedback helpful. I also hope that Te Ara Paerangi brings some great and innovative change to NZ science and I very much look forward to seeing what form that change takes as the process progresses in the future.

Ngā mihi nui,

Sarah

Dr Sarah Hunger

Scientific Manuscripts Ltd

Christchurch

New Zealand

Ph: Privacy - 9(2)(a)

Email: info@scientificmanuscripts.com

Web: www.scientificmanuscripts.com