



# Roads Less Travelled

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*Improving the employability of chemical engineers*

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**T**HERE is no denying that the resources downturn has been difficult for our profession. However, rather than debating whether our once-niche discipline has become oversubscribed, we challenge you to help improve the prospects for those who have been made redundant or are graduating into a sub-optimal engineering job market.

Here in Brisbane, Australia, the Queensland JCEC “Road Less Travelled” series of alternative career-path events was born out of the same brainstorming exercise. Our rationale has been simple: as a voluntary committee we cannot create chemical engineering jobs. What we can do, however, is improve the employability of chemical engineers by helping them target the

more degree-non-specific graduate professions.

We have held three events in Brisbane, focussing on *Finance, Insurance, & Risk, Management Consulting, and The Public Sector*. A Melbourne spin-off has also been held. Over the course of this series, we have met pension fund managers, banking executives, insurance risk leaders, automation consultants, asset management partners, climate change directors, flood risk planners, government branch directors, and regulatory inspectors – all degree-qualified chemical engineers keen to share how they made their transition into their chosen field. We believe that every academic department and regional group should present such alternatives for the benefit of



their community. The purpose of this article is to share our tried-and-tested event format to enable other communities to replicate and build upon it.

### THINKING LIKE A RECRUITER

We found the task of identifying potential speakers relatively straightforward – for example, a series of targeted LinkedIn searches of the term “chemical engineering” combined with the names of the big four professional services firms yielded multiple management consultants in Brisbane. With each shortlist created, we had four criteria for selecting our preferred speakers:

- They would preferably be at a hiring manager level within their company. Putting attendees in direct contact with such individuals has the potential to really open doors for those that make a good impression. That said, presentations from more recent graduates have also provided great value.
- Their transition would have to be relatable. We wanted the message to be that anyone can do it, and so we excluded from our search results those whose dual-major led to their chosen specialisation or those where an MBA appeared to have been the catalyst for career change.

- They would provide variety of content. This was achieved by ensuring that speakers had different specialisations and backgrounds within the broader event theme.
- They would ideally work for different companies. This widens the networking opportunities.

Now for the more challenging part; reaching out to our panel. Once we had selected our preferred speakers, we sent a carefully-tailored call to arms to each, explaining the issues facing engineering employment, why we had selected them as speakers, and how they could take part in our initiative to help the next generation. These initial messages, which were sent via Inmail (LinkedIn Premium’s messaging service), garnered maybe a 50% response rate. Now, any good recruiter will appreciate that lack of an answer does not mean “no”. Rather, it could mean any number of things from “I don’t check my LinkedIn”, to “I was just overloaded when it came in”. A couple of phonecalls via company switchboards was enough in most instances, although some required a bit more persistence before contact was made. Once each speaker appreciated what we were trying to achieve, we had their full buy-in and they couldn’t wait to deliver their message.

### ENGAGING YOUR COMMUNITY

Unless there has been a serious downturn in your region, students are always going to be the largest population looking for employment. In order to maximise engagement, it therefore makes sense to hold the event on campus and to work alongside the local student society. Such events should also be aimed at those between jobs, considering a career change, or just with a curiosity for the subject matter. However, we reasoned that this group would be lesser in number. We found that letting the students take control of the event and run it on the night allows them to showcase their skills to the panel of speakers, who let’s not forget are potential employers.

### FORMAT FOR SUCCESS

We designed our event to allow attendees to not only learn from our speakers, but also to interact and network with them. A three-speakers format struck the right balance between providing sufficient detail and ensuring variety. Each speaker was given 20 minutes to present on their chosen field with a focus on how to replicate their transition into it. Some gems from this section included the following:

- “Banking: it’s a people game”. We learned that whilst technical solutions in banking are rarely difficult to identify, the main challenge is getting people to adopt and change to the new ways of working. Engineers looking to make a transition to the sector were encouraged to ramp up their understanding

## THOUGHTS ON THE PROFESSION CAREERS

of emotional intelligence, change management, and leadership, and dial-down their belief that having a technically-correct solution will win the day.

- “The difference between a bad and a good management consultant is PowerPoint. The difference between a good and a great management consultant is Excel”. The idea being that a young consultant will often be asked by their director to knock together a spreadsheet or presentation on the fly, and that online learning platforms such as Udemy allow anyone to take a 10-hour course and really master these software packages like few people do.
- “How many men does it take to dig a hole?” We heard how the stereotype of public sector inefficiency is largely unfair. Yes, there can be a lot of bureaucracy, and as a result, council engineers should demonstrate an ability to follow processes and a resilience to drive projects through. However, contrary to popular opinion, there is a focus on efficiency in order to deliver the best outcomes for the community. Therefore, a good public sector engineer must constantly pursue the latest thinking and seek innovative solutions that deliver value for money.

After a solid hour of listening, a refreshment break and a panel Q&A loosened up the attendees towards a more interactive second half. Some thought-provoking questions and enlightening answers ensued:

- “Do I need further education to get a job in finance, insurance, or risk?” The answer: not necessarily, but it can help, and it depends on the job. Risk is a subject which the engineering syllabus gives us a good understanding of. Many insurance companies will employ engineering underwriting/technical risk teams. The finance sector may be more difficult, although experience such as management improvement projects, or skills such as Six Sigma can be transferred. We met a successful fund manager whose transition into finance was in the form of a part-time diploma completed whilst still working as an engineer.
- “Is it possible for an experienced engineer to switch into management consulting?” The answer: absolutely. In fact, anecdotal evidence was heard of an engineer who had switched into consulting for a couple of years, and then moved back to the same engineering organisation several job levels up, something which would have taken much longer to achieve via the conventional route.
- “What are the advantages of the public sector over the private sector?” When considering a career, most engineering graduates look to large private companies as the only option, but this does not have to be the case. Benefits of

working for local government include getting to see the product of your work when you drive around the streets, being able to design the future, better work/life balance, career flexibility, and excellent superannuation (pension) contributions.

With the Q&A over, we encouraged the attendees to gather into groups. Each group was headed by one of the speakers and included a committee member to keep the discussions on track. We gave them topics to work through such as “How do I break into the finance sector?” or “What challenges am I likely to face in my first year as a management consultant?”. This exercise allowed even the quieter attendees to be drawn into the discussion, and for everyone to meet the speakers. Where there was likely to be considerably greater than a 10:1 ratio of attendees to speakers, we contacted other degree qualified chemical engineers from the focus industry to participate; sometimes the speakers themselves brought in some of their colleagues to help out. This format allowed everyone to make a valuable connection.

### FEEDBACK

Such was the variety of subject matter and speaking approaches, everyone seemed to take away something different from the presentations. The interactive workshops were also well received – so much so that post-event, attendees were queuing up to speak to the presenters. Only time will tell, but we would like to think that some of our attendees have been inspired to follow their own road-less-travelled career.

Similarly, it was evident that our speakers got a lot from the experience too. There was the opportunity to reconnect with a profession that is a world away from where they are now, but which they had each devoted a considerable period of their life to. For many, it was a homecoming to the university where they had studied, and perhaps the chance to help steer younger versions of themselves. In the words of one of our speakers: “the whole group was very impressive; it is a delight to see the quality of the next wave of engineers”. The respect was mutual.

### FINAL THOUGHTS

Throughout the presentations and discussions, there was one message that emerged time and again, and it is something that is quite powerful when done right: **work your network**. We were told the story of a graduate consultant who must have invited their future boss to coffee ten times before she accepted. Paraphrasing another one of our speakers: “If someone wants to reach out to me, I’m never going to say no”. If you ever do decide to reach out to someone, just be aware that you may have to work a bit for your response!

Thank you for reading this article. The Queensland JCEC feels very strongly that a “Road Less Travelled” style event would be of benefit to every local community, and we urge you to take action. ■