

Skills shortage a consulting civil/structural design perspective

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Summary

- My basic premise is that poor remuneration & poor related community standing has made professional consulting engineering less attractive to potential students and also why many who qualify choose not practice. What has caused this? I believe the following are the main causes for the decline in incomes.
 - Elimination of minimum fee scales
 - Erosion of time available for design due to
 - QA
 - WH&S and other decadent legislative impost
 - And now Harmonization laws
 - Inappropriate CPD requirements, costs and erosion of time
 - Project Management & Corporate Builders making work excessively stressful
- Government under funding for university education and research has also lead to additional costs for engineering practices
- My argument is to significantly improve incomes for professional engineers which will then attract more people into the profession. The way to achieve this is by reintroducing minimum fee scales and removing unnecessary excessive government interference in the form of QA & WH&S regulation.

Expanded commentary

I am a fully qualified MIE Aust Civil engineer. I graduated in 1972 with a bachelor degree and have practiced as a structural design engineer since then. For the last 20 years I have run a small Consulting Structural Engineering Practice. For 15 years, until December 2011, I employed 1 senior engineer, 1 senior drafts person and 2 part time office staff. This year I have reversed roles with my senior engineer in a process of aiming to retire in the next 10 years.

The application of the Trade Practices Act in the nineteen seventies, to Australian professional consulting engineers' fees, eliminated a requirement for compliance with minimum fee scales. The immediate and ongoing effect was & is a massive reduction in fees and subsequent reduction in salaries and quality of work produced. Real Estate agents operate with minimum fee scales and yet provide nothing to the gross domestic product.

What attracts people to the engineering professions is to a large extent driven by the potential salaries.

Those of us who have seen our relative worth and standing diminish over time are hardly going to champion our profession to those considering following in our footsteps.

The introduction of QA, WHS and now harmonization laws has further eroded the productive capacity of engineers and further eroded income generating capacity albeit with less time to carry

out good design the very thing that these laws and requirements are purported to be improving. Has anybody actually researched, established the effectiveness of these laws/requirements?

In recent times we have experienced the rise and rise of MBA and project management courses. We continually see people from these courses that do not have adequate knowledge of my industry driving projects from various government departments. These people absorb significant proportions of the design fee, are not represented by or accountable to an appropriate professional body.

In a similar way large builders are being engaged in design construct contracts. This also puts downward pressures on consulting fees and additionally erodes available design time due to excessive numbers and times for unnecessary design meetings.

When I started my career in 1972 most building design was generally carried out in the traditional manner; by tender. Clients approached architects for fee proposals, the architects in turn organized sub consultant fees, tender documents were produced and ultimately a builder selected. The net results were far better buildings probably at a lesser cost than by the design construct process, particularly when a whole of life assessment is considered.

The impact of university underfunding is twofold; less academics and the need for their research input to industry being funded more and more by expensive and time consuming seminars. If the academics were more reasonably paid their research papers could be disseminated at much lower cost to industry by on-line presentations. The direct and personal time costs for continuing education is yet another form of income and quality of life intrusion.

The reason for my not retiring immediately is because it will take me 7 years to run down my PI policy which is a \$65,000 exercise, yet another cost burden.

Thus by the following means professional salaries can be significantly improved resulting in more people becoming professional engineers: -

- Reintroducing minimum professional engineering fee scales,
- Removing unnecessary QA and WH&S regulations,
- Eliminating government design construct tendering for civil/structural projects and
- Improving professional engineering academic salaries through better university funding.