TAKE 5 looking ahead: defining the terms of a sustainable architectural profession

edited by Paolo Tombesi, Blair Gardiner and Tony Mussen

PARIAHS OR ENABLERS? THE ARCHITECTURE OF DESIGN OUTSOURCING

In her opening contribution to *TAKE 5*, Margaret Bozik articulated APESMA's quest to represent the rights of architectural wage earners, cautioning against the perils of a disaffectionate professional labour force. Of course, low and sometimes under-award wages are not only the sign of wicked employers and depressed markets but also a reflection of a generally devalued value chain, which does not produce enough wealth in the form of fee-based revenues to start with. The best way to produce and maintain a healthy workforce is to guarantee stable levels of occupation through not only adequate involvement with construction markets but also adequate professional remuneration.

Over the last few years, architects' remuneration has sustained repeated institutional attacks in Australia as well as overseas, from the UK to Italy, based on the argument that professionalisation creates monopoly conditions and stifles competition. The data available on fee levels in Australia seem to suggest the opposite, with numerous recorded instances of underbidding and market dumping, as well as plenty of evidence that recommended fee scales are only occasionally considered.

Yet, today one could argue that the stiffest competition does not come from, or solely from, non-professional providers but also, and perhaps mostly, from technological advances. In an interview that follows, Mark Burry and John Frazer advocated the need for the profession to accept and embrace the potential of computing, or risk the loss of architects' privileged position as traditional point of reference for the development industry.

Digital opportunities, however, expand beyond Australia and Australian firms. With the advent of information and communication technologies, the Prometheus of architectural practice has been unchained from the tyranny of place-based production, making it possible to outsource design or documentation services to professional or vocational entities located

in areas with lower costs of living and labour rents. The method is quickly taking hold in the sector, with many firms exploring the use of collaborative ventures of this type, and many firms emerging overseas in response to the opportunity. Unlike the UK or the US, where these issues are starting to be openly debated within professional institutions, the Australian profession has been considering the use of these possibilities seriously yet with discretion.

As editors of a publication that seeks to establish the future terms of a sustainable profession, we thought that the outsourcing of digital services represents one of the most cogent dilemmas faced by the architectural profession at present. Does the use of non-Australian-based collaborators threaten to affect the occupational and wage levels of the domestic architectural workforce or does it instead represent the only way for Australian architectural firms to survive in the current fee-shrinking climate without lowering their professional service? To stir the water, we asked Satellier and Atlas, two firms based respectively in Delhi and Ho Chi Minh City, which have become very active and successful in this business, to be their own advocates, and explain how and why their services should be considered.

MICHAEL JANSEN Worksharing

More and more Architecture/Engineering/Construction (AEC) firms are embracing offshore production as a normal business practice. Market analysts predict that, by the year 2008, more than 40 per cent of American and European AEC firms will offshore a significant proportion of their production work, over three times the current number. According to Gartner, a North American information and technology research and advisory firm, design organisations will need a combination of growth, speed, and cost management – supported by unprecedented business agility – in order to remain competitive in the coming years.

One of the principal benefits of working with offshore service providers is cost savings. For instance, the services provided by our company, Satellier, are 50 per cent to 60 per cent less costly than typical in-house US production costs. But lower costs and economies of scale are not the only factors driving customers to firms such as ours. For some, using Satellier enables them to hire more intelligently as well. In times of building activity upswings, we can absorb firms' overcapacity work, thus allowing them to avoid the additional costs of internal employment, health care, training and workplace expenses. When things slow down, as they always do, the downsizing is a much easier and natural transition.

Another important benefit of offshore collaborations is that they allow firms to spend more of the professional fee on design rather than production. A number of offices use Satellier just for this reason—that they can invest more hours 'designing', which is presumably their primary ambition when not their core strength. Not unlike all other suppliers, clients expect their design firms aggressively to pursue production efficiencies to keep prices low, or to make sure that they are paying first and foremost for value added services. Moreover, offshoring helps one improve project delivery speed. By working jointly with our clients in the evenings, between US daytime hours and our daytime hours, we can work 24/7, accelerating document delivery times by 30 to 40 per cent.

By using Satellier's experience as a guide, we foresee that, lest to be replaced by architects working overseas, architects working in the United States will have to be educated in proper procedures for offshoring production work, in the same way as they were educated in CAD when CAD products were introduced in the late 1980s. It is a fact that, as firms engage offshore production resources to assist them with the delivery of their design projects globally, the increase in profitability that results from the inherent cost savings has enabled our clients to re-invest profits in-house. We are not aware of any firm we have worked with that has dismissed domestic staff after securing long-term arrangements with us: instead, we find that the higher competitiveness and high-quality work we produce enables our clients to grow in size rather than reduce.

This seems to be in line with the emergence of a global business paradigm called 'knowledge process outsourcing' (KPO), which implies the delivery of high-value, knowledge-intensive transaction and customer-contact processes, carried out by workers with domain-specific vertical skills, both onshore and offshore. The outsourcing of knowledge-based processes involves more challenges than simple process outsourcing. These include investment in technology platforms, development of industry-specific solutions, maintenance of high quality standards, constant talent recruitment, increased security, and comprehensive risk-management measures. According to the Indian National Association of Software and Service Companies (NASSCOM), New Delhi, the KPO market in the country, now estimated at $1.2 billion, will see a surge to $15.5 billion in the next decade, with India capturing approximately 70 per cent of the world market.

Today, KPO entrepreneurs are realising that their knowledge of the design services industry holds significant value, and it is something that can enable them to emerge as business leaders regardless of their geographic location. Despite the sensitivity surrounding outsourcing issues, the fact remains: if offshore workers possess equal—if not greater—expertise than workers in the US, UK or Australia, good business practices would suggest consideration of leveraging offshore resources for maximum operational and financial benefits. This does not have to mean that the trend will have a negative impact on knowledge workers in the economy taking advantage of this possibility. On the contrary, if such economy continues to create knowledge workers who can produce intellectual goods better than others, this will only expand their job opportunities, given that broad demand exists globally.

It is critical, though, to distinguish between outsourcing and workshare. Though both activities may be undertaken offshore, the former involves a working arrangement wherein a service demander assigns specific, repetitive, formulaic drafting tasks to a service provider who, in accordance with previously-established implementation procedures and protocols, supplies the work to the service demander as per agreed-upon delivery schedules. With workshare, both the service demander and the service provider share the responsibility for undertaking value-added assignments in close discussion/cooperation/partnership that involves design development issues as well. Satellier is a workshare firm, and we believe the world will move to workshare as companies resembling ours become increasingly experienced and sophisticated. This will render the competitive landscape and professional market dynamics more complex, as many service providers will be seeking to forge long-term relationships. These companies are presently entering the workshare market at all levels, enlarging their offerings while seeking differentiation.

One of the important transformations that should be used in assessing both the validity and the viability of this model is the passage, currently taking place in the industry, from a customised, internally focused IT environment to shared infrastructure, applications and processes that rely on open standards. Service providers will soon move from a workshare approach based on the former to one revolving around solutions-based value propositions in a shared environment. A natural example is provided by those virtual teams distributed across the globe but sharing the same process, technologies, skills and capabilities.

The Virtual Studio concept at Satellier is an elaboration of the traditional studio model, only extended beyond the physical boundaries of the office. It is intended to service design firms with large, dedicated production needs, by integrating our team with theirs, and allowing them to work in close tandem to service the client's projects worldwide. Virtual studios offer greater team visibility, enhanced connectivity, customised physical premises, tailored training platforms, dedicated client relation and transitioning teams, and access to local projects via a local presence in the Indian market. Satellier will begin to roll-out virtual studios in close collaboration with select firms next year, and it is expected that each studio will exceed 100 professional employees within 12 months.

But worksharing is not limited to large design networks, and can indeed be triggered by multiple factors. It can benefit the small office designing large projects, the sole practitioner consulting for a larger firm and providing specialised expertise on a single project, or the young Asian architect recently graduated from an architectural program in the West, who lacks experience but has contacts at home.

The natural question to ask concerns the impact these organisational changes will have over the structure of practice. In his thesis 'Gaining competitive advantage in the architectural practice business: The outsourcing of architectural services', David del Villar, a design doctoral student at Harvard University, postulates that, as the use of architectural firms' outsourcing for non-core services escalates, current design and implementation processes will evolve, generating a new model for architectural practice. Architecture firms will emerge as think tanks dedicated to high-end, value added design, with many of their traditional production and other operations delegated to workshare partners and contractors. Building information modelling will also have a strong impact on guiding the profession in this direction.

At Satellier, we believe that this model will win. The numbers speak for themselves. We have been in existence for seven years. Four years ago, only four of the top 50 architectural practices in the United States were willing to speak with Satellier regarding potential collaborative work arrangements; today, the firm has met with 47 of the top 50, all but three. Meanwhile, in this relatively short space of time, we have collaborated on over 2,000 projects spread across over 50 countries, and already worked with 14 of the top 30 Architecture/Engineering firms in the world. In 2001, we estimated that Satellier had as many as 50 global competitors sharing the same space; today we estimate that the number has grown to over 1,000. In response to the market, we are currently hiring 25 to 30 architects or technicians per month and invest 70 per cent of our turnover into technical systems and training schemes. Thanks to the internationalisation of the work, our staff is getting unparalleled exposure to, and training in, the professional challenges of architecture.

JOE WOOLF Made in Australia (drawn in Vietnam)

Atlas cyclo (Courtesy of Atlas Industries)

Over the past seven years, my company, Atlas Industries, has developed an offshore construction documentation process which, if adhered to by all the parties involved, can be relied upon to deliver consistent high quality drawings. The company now employs 200 staff between London, Sydney and Ho Chi Minh City, of which around 150 are architectural graduates. All Atlas architects are trained and supervised by experienced architects from UK and Australia based in Ho Chi Minh City. The style, format, standards and quality of the drawings produced by Atlas are identical to those produced by client practices in UK or Australia. Quality, in this context, means four things:

1) accurate, appropriately detailed drawings—for each of the various drawing development stages with opportunities for the client architect to review, feedback and safeguard design intent;
2) timely delivery—scheduled to accommodate other consultants' needs, contractor procurement and other programs;
3) appropriate, fixed, prices—lower than the target market; and
4) regular progress reporting so that the architect stays firmly in command.

Outsourcing to Atlas has become a normal business routine for several of the top 10 practices in UK as well as a number of smaller practices. Australia is following close behind. Working for these firms meant Atlas had to raise its game in terms of quality and efficiency, becoming, over time, one of the leading experts in construction documentation.

In both UK and Australia, there is a shortage of skilled architectural technicians. Margins in the sector are under relentless pressure and salaries are modest compared with other professions. Moreover, construction is traditionally a cyclical market. This makes it hard for practices to invest in growth with any degree of confidence—hence the highly fragmented nature of the profession—and risky for young people considering a future career. Over the last few years, Australia and other advanced economies have experienced a favourable cycle, both in terms of growth and construction activity, which has put some pressure on the production of professional workforce while keeping firms' cashflow high enough in spite of increasingly low fees. Yet, once the situation stabilises—or worse, the trend is reverted—internal cost reduction could become a necessary feature of the strategic management of architectural firms. In this context, the number of architectural graduates emerging from universities may decline, making it even harder to resolve the shortage of good people.

Outsourcing to a competent supplier is therefore an attractive proposition. In our experience, architectural practices quickly realise that their initial concerns relating to time differences, loss of control, loss of jobs, changes to the way work is undertaken and above all, quality, are all unfounded. All our clients are using Atlas services to:

- Raise quality standards;
- Enhance profitability and/or turnover and reduce the risk of time and cost over-runs;
- Increase effective capacity—that is, to enable practices to handle bigger projects without having to worry about the follow-on projects that will be needed to pay for additional offices, people, computer hardware and software licenses. Atlas represents a pool of resources that can be switched on and off as required;
- Offload the more routine, mundane construction documentation tasks so that high-priced UK or Australian architects have time to concentrate on the more interesting and valuable design activities for which they were trained. Architectural practices differentiate themselves through the quality of their design—outsourcing to Atlas enables them to invest more time and effort in producing better buildings;
- Improve job security, quality of work and life for the practice's UK or Australian staff—no Atlas client is using those services to reduce head count;

- Reduce fixed costs as turnover increases enabling practices to export design services at rates that are more competitive in target markets.

Line No.		Unit	Value	Line Calculation / Comment
1	Annual fees/turnover	£mm	10	Sample
2	Proportion of projects that go full term	%	75%	Sample
3	Total value of projects that go full term	£mm	7.500	1 x 2
4	Proportion for EFG	%	37%	RIBA / conservative estimate
5	Value of EFG work	£mm	2.775	3 x 4
6	Average profit on EFG work	%	5%	high estimate
7	Average profit on EFG work - without outsourcing	£mm	0.139	5 x 6
8	Assumed percentage outsourced	%	75%	a possible goal to go for
9	Value of EFG work Outsourced	£mm	2.081	5 x 8
10	Value of EFG work kept in house	£mm	0.694	5 - 9
11	Profit on work done in-house	£mm	0.035	6 x 10
12	UK cost of in-house work	£mm	0.659	10 - 11
13	Assumed Atlas charges as a %age of UK cost	%	60%	typical basis
14	Charges for work outsourced	£mm	1.249	9 x 13
15	Sample practice cost of managing outsourced work	%	10%	estimate
16	Sample practice cost of managing outsourced work	£mm	0.125	14 x 15
17	Total Cost of outsourced work	£mm	1.374	14 + 16
18	Profit on outsourced work	£mm	0.708	9 - 17
19	Total profit on EFG	£mm	0.742	11 + 18
20	**Increased profit on EFG with outsourcing**	**£mm**	**0.604**	19 - 7
21	**Practice profitability before outsourcing**	**%**	**5%**	typical figure
22	Practice profit before outsourcing	£mm	0.500	1 x 21
23	Practice profit after outsourcing	£mm	1.104	20 + 22
24	Percentage increase in profits	%	121%	(20 / 22) %
25	**Margin after outsourcing**	**%**	**11%**	23 / 1
26	Value of effort re-invested	£mm	1.977	9 x (1 - 6)
27	Return on £ invested in design	%	25%	assumed staff redeployed to A-D effort
28	Earnings on resources redeployed on A-D or other activities	£mm	0.494	26 x 27
29	Profits with re-investment	£mm	1.598	23 + 28
30	Increase in profit with outsourcing & reinvestment	£mm	1.098	29 - 22
31	Percentage increase in profit	£mm	220%	(30 / 22) %
32	**Margin after outsourcing & redeployment of resources**	**%**	**16%**	(29 / 1)%

Sample practice: Benefits arising from outsourcing, Atlas Manual. (Courtesy of Atlas Industries)

Atlas undertakes some design development and 3D visualisation work but the vast majority of its effort is focussed on construction documentation. Project build cost varies from $20 million to $3 billion and ranges across all sectors and building types. Our involvement in these projects is either on a package-by-package basis or on the complete documentation of the building.

Today, as mentioned previously, Atlas counts four of the UK's top 10 practices as long-term repeat business clients. These practices are enjoying the services they are receiving, the high quality and the low costs, and are steadily building the volume outsourced with a view to retaining perhaps 20 per cent in-house

for staff training purposes and to accommodate those projects which cannot easily be packaged for outsourcing.

But working this way is no free lunch—changes to the practice's processes are involved and training is required for both the managers and their technical workforce. Yet data from the industry indicate that the arrangement has its benefits, since the volume of work undertaken this way is growing. The potential market for existing architectural services is immense, and other related services including structural engineering, mechanical and electrical engineering will be added over time. One industry expert calculates that the market for CAD services in the construction sector is worth $8 billion per year in the US alone. There is no doubt that the growth in offshore outsourcing to architects and engineers will continue—the only question is, how far and how fast?

Although we consider ourselves leaders in the architectural services field, we have no doubt that there will be many new entrants to the market as it expands. But outsourcing is not as easy as it may first appear, and the barriers to entry are rising. Three factors have underpinned our success:

1) a compelling proposition: higher quality, reduced cost, reduced risk for appropriate projects, however not all projects are suitable for outsourcing;
2) competent people, processes and systems to deliver consistent quality; and
3) a good cultural fit between people, companies and countries. For outsourcing to be truly effective, the supplier has to be seen, over time, as an extension of the client practice.

Cultural fit is rarely recognised, almost never written about, and is perhaps the most important and difficult aspect to deal with. Mention offshore outsourcing and it conjures up images of sweatshops. Nothing, for Atlas at least, could be further from the truth—the company offers, and delivers to, its employees:

- Top quartile salaries in local market terms;
- A world-class office environment;
- All the technical training that a young architect could hope for;
- Opportunities for temporary assignments in UK and Australia;
- Long-term career development opportunities in a rapidly growing market.

It is worth noting that Atlas has taken a proactive role in the training of local architects by sponsoring universities, participating in their activities, putting

people in school, offering scholarships and advising on the curriculum (FIGURE 3). The international-standard residential, education, health care and commercial design skills that Atlas staff are learning are being passed into the local market. The Atlas expatriates based in Ho Chi Minh City are advising hospital and other local authorities and bringing their decades of experience to bear for the benefit of the community.

Atlas represents a unique career development opportunity for young architects and is therefore the employer of choice. Half the staff are female (FIGURE 4). Ho Chi Minh City currently has a population of seven million in a country where levels of literacy are amongst the highest in the world and education is highly sought after. Continued economic growth, demographics and urbanisation will result in the city doubling in size over the next 15 years according to official predictions. Provided that Atlas continues to invest in its unique culture and stays ahead of the competition, there is no foreseeable limit to its growth potential.

FIGURE 3: Atlas Scholarship awards ceremony. (Courtesy of Atlas Industries)

FIGURE 4: View of the Vietnam office. (Courtesy of Atlas Industries)

For newcomers, both buyers and sellers, to outsourcing of architectural services, it takes time and effort to understand and adopt the different work practices demanded and to develop the close cultural fit needed for a partnership of this nature. The commitment of decision makers at all levels within an organisation is essential. Offshore outsourcing is not a quick fix—the time and effort required by both parties only makes sense if it is seen in the context of a long-term relationship with costs amortised over numerous projects and many years.

The choice facing architectural practices today is either to consider these different work practices seriously or to risk being left behind. Laggards fear that jobs will be lost, core skills diminished or quality reduced. Even though all the evidence points the other way, many will be reluctant to take the leap. Like many of the others who have been disinclined to accept fundamental changes brought about by new technologies or ways of working, they will simply be left behind.