

# The Impacts of New Organisational Forms in Construction

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## INTRODUCTION

The building and construction industry is generally characterised by a tiered system of organisational relations. Reflecting this arrangement, the largest development projects in Australia are dominated by a few major corporations (known in the industry simply as the 'majors'). Different aspects of construction are sub-contracted out to subordinate companies which in turn sub-contract out to independent contractors, with the result that a pyramid of sub-contracting arrangements is one of the most distinguishing features of the industry. The Australian situation is not unique and reflects arrangements across the industry globally (Ball, 1988; Winch and Campagnac, 1995; Collins, 1990; Eccles, 1981).

This organisational structure of pyramid sub-contracting has been amplified by increasing concentration of ownership within the industry, which has been associated with increased control by international construction companies. While large construction projects and large companies can be expected to be common companions, a disproportionate share of the biggest development projects in Australia, ranging from office block construction, residential complexes through to public infrastructure projects, are held by a few, large corporations.

This paper outlines reorganisation of the Australian building and construction industry for the purpose of understanding employment pressures that arise from changing structure and practices. The principal aim of the project was to develop an appreciation of the labour supply pressures confronting the building and construction industry. During the early and mid 2000s, the industry suffered the effects of a significant skill shortage forcing increasing resort to the global labour market. From 2008, these pressures have moderated with the global financial crisis but these pressures could well emerge as the Federal government releases monies from the Building Australia Fund for substantial infrastructure development.

This paper outlines contemporary organisational contours of the Australian construction industry to provide a foundation for exploration of the employment impacts of new organisational arrangements including non-standard employment, and issues in training and skill formation. The next section outlines relevant understandings concerning the evolving nature of building and construction and associated aspects of employment relations. The third section outlines the methodology while the fourth section depicts the currents of organisational change and practice in Australian building and construction. The fifth and final section connects the Australian findings to a broader context and considers key ramifications of recent changes.

## BACKGROUND

Construction, from simple to complex, is fundamental to all societies. The vast majority of construction projects, are unique (Green, 2006) and, ordinarily, they are delivered by a temporary, multi-organisational coalition specifically set up for the purpose of project delivery (Cherns and Bryant, 1984 cited in Green 2006: 1). Such coalitions, whether they exist just for the length of the project or are more enduring alliances or partnering arrangements, must address a fundamental characteristic of the industry – that it is fragmented, with individuals from different organisations which are geographically and temporarily dispersed, involved in the construction process (Luck 1996 in Bresnen and Marshall, 2000: 230).

An ILO study observed that in many developed countries, including Australia, the construction sector is increasingly characterised by the 'hollowed-out' firm that retains only a small core of white collar staff and few, if any, other employees. Traditional contractors are increasingly removed from the physical work of construction, choosing to concentrate on

management and coordination functions. Some major contractors have evolved into service companies. Along with the declining influence of the public sector, the result of this trend has been a massive casualisation of the construction workforce (ILO, 2001 in Green and May 2003: 103).

Typically, the hollowed-out construction firm is understood to be an outcome of social and organisational 're-engineering'. This derives from a body of project management/construction management and industry 'development' literature that endorses managerialist inclinations in support of re-engineering, leanness and so on (refer Green and May, 2003 for an overview). A counterpoint to this is a small but strenuously argued new current of thought (for example Green and May, 2003, 2005; Bresnen and Marshall, 2001; Bresnen et al, 2005) which, from a discourse and critical management studies perspective, counters the mainstream of unitarist thinking. Green and May (2003, 98) report that, despite the lack of supporting evidence, opinion shapers in the UK construction industry readily adopted business process re-engineering (BPR) as the solution to the industry's problems. In contrast, they contend that re-engineering is, firstly, impossible to define in terms of its substantive content and best understood as a rhetorical label, and, secondly, that 'continued adherence to machine metaphors by the construction industry's top management has directly contributed to the 'bad attitudes' and 'adversarial culture' that they repeatedly decry' (Green and May, 2003: 97). They observe that although BPR has been discredited within the broader management literature, metaphors of re-engineering 'captured the imagination of industry leaders and researchers...[and] its popularity within the construction sector continues relatively unabated' (p98).

BPR, and the associated narrative of 'enterprise culture' is argued to have undermined broad, societal strengths of professionalism in the construction industry. In the current era of neo-liberalism, the notion of 'best value' translates to best value as measured by the short-term mechanisms of the marketplace. 'Customer responsiveness does not therefore mean meeting the needs of building users, it means meeting the needs of those who wish to profit from building users' (Green and May, 2003: 100) with associated disregard for designing buildings that contribute to the quality of the public space.

BPR, the critics contend, has merged into a rhetoric of 'leanness'. 'Leanness' in construction, it is argued, is a quest for structural flexibility involving restructuring, downsizing and outsourcing. Significantly, Green and May (2003) discern that 'lean thinking' continues to be used to justify, amongst other things, a shift towards bogus, labour-only subcontracting and the associated reduction in employment rights (97). Self-employment undoubtedly has a legitimate role in the construction industry, however, there are significant concerns regarding the way that contractors have avoided their responsibilities through bogus self-employment.

Appay's (1998) notions of 'cascading subcontracting' and 'controlled autonomy' are relevant in understanding organisational change in construction. Appay identifies corporate restructuring in some industries, including construction, as involving concentration and atomization operating simultaneously at the firm level (180). This represents a change in strategy which leads to companies growing, rather than shrinking, whilst reducing costs (161). Economic concentration increases through mergers and takeovers, but rather than growing into ever inflated organisations, firms externalize non-strategic activities while maintaining control through subcontracting, so that company, and associated industry, restructuring combines economic concentration with atomisation. Outsourcing and networking between firms emphasise horizontal inter-firm relations. Using the concept of 'cascading subcontracting', Appay established a horizontal *and* vertical ('pyramidal web') perspective of the relationships between firms. 'Cascading subcontracting is one of the major forms of the externalization of labour. Its analysis highlights how reducing the labour force is a characteristic of current corporate restructuring which hides the reorganization of production through tiers of subcontracting' (Appay, 1998: 179). This phenomenon entails downgrading of employment status and working conditions, the rise in precariousness and intensification of work due to greater competition.

## **METHOD**

The empirical material in this paper is derived from a series of 21 semi-structured interviews conducted during 2005 across a wide range of construction industry organisations including head contractors ('majors'), large and medium subcontractors 'situated' below the majors and providing building/construction services to the majors, as well as industry and trade specialist organisations, unions and training organisations. Senior people within these Sydney-based organisations were accessed – directors, general managers, national directors of human resources, corporate-level organisation development managers, apprenticeship/training managers. Interview transcripts were analysed and collated thematically with the aid of NVIVO. Names of respondents are not used to preserve confidentiality. Where available relevant company documents were also accessed.

## **FINDINGS**

### **Organisational Change in Construction**

Significant reorganisation of the Australian building and construction industry has occurred over the past 20 years. Prior to this, major companies (head contractors) deployed a fairly comprehensive range of tradespeople, had substantial numbers of direct employees and were heavily and directly involved in the management of onsite building and construction activity. Over the past two decades there has been a change in the focus of the major corporations. As these companies have extended their share of the major development projects throughout most of Australia, they have tended to shift from a direct and expansive engagement in building and construction, to the project management and/or financial management of those developments. Nowadays head contractors are essentially a high-level management 'shell' often oriented more towards the financing of projects than deployment of workers and supervision of building work. This has underscored the pyramid sub-contracting arrangements that occur in most arenas of the industry (Buchanan and Allen, 2000; McGrath-Champ 1996; Underhill et al, 1998) discussed further below. As the majors disengage (and outsource) many of the functions of design, engineering and actual construction, additional layers of sub-contracting arrangements have been introduced into the industry, a phenomenon articulated by most respondents.

A small number of companies mostly operating in the civil construction sector 'have always had a global dimension' (General Manager, Organisation Development, Client, Partner and Safety, Baulderstone Hornibrook, Interview Transcript, 22/7/05: 42-43). However, it is becoming increasingly common for Australian construction companies to compete globally and undertake work outside Australia, in Asia (McGrath-Champ and Carter, 2001), Europe/UK (a notable example is the Wembley Stadium, London) and elsewhere, essentially becoming 'multinational' companies (Senior Federal Industrial Officer of the CFMEU Interview Transcript, 25/7/05: 6). A further shift has seen amalgamation of head contractors within Australia into larger companies (e.g. Leightons, Thiess and John Holland), as well as heightened ownership of Australian construction companies by foreign multi-nationals (e.g. Leighton with Hochtief, Baulderstone Hornibrook, Abigroup with Bilfinger Berger and Brookfield Multiplex). In addition to organisational and ownership changes there has been diversification of major companies into property management.

The boundaries of the construction industry have shifted in other ways with some manufacturing suppliers (for example, of concrete) having extended their 'reach', taking over companies that carry out concreting and form-working (such as Boral's acquisition of De Martin and Gasparini), heightened use of prefabrication shifting many construction activities offsite and increasingly offshore (Manager, De Martin & Gasparini, Interview Transcript, 2/12/05: 8). Modularised steelwork can be made overseas and has resulted in the closure of large fabrication plants in NSW and WA, replaced with small fabrication plants. Drawing and programming is sometimes undertaken in India (Group Manager Industrial Relations, John Holland, Interview Transcript, 13/7/05: 37).

The corporatisation and privatisation of public sector utilities has reinforced these change processes, with the outsourcing of most construction work. Government infrastructure is now tendered out and constructed largely by the private sector. The recent initiatives by State governments to organise more public works projects through 'Public-Private Partnership' (English, 2006) is carrying transformation of the construction industry still further (Toner, 1998), such that the HR manager of a large infrastructure project being undertaken jointly by two head contractor companies commented that '[t]he government no longer has the infrastructure to design and build' (Human Resource Manager, Lane Cove Tunnel project, Thiess/John Holland joint venture, Interview Transcript, 7/6/05, 15).

### **The Changing Nature of Subcontracting**

Reorganisation of the industry and elongation of the subcontracting chain (pyramid subcontracting) have gone hand-in-hand. This shift was commented upon by many respondents. There is variation in the extent of subcontracting versus direct employment between different sectors in the construction industry. Pyramid subcontracting is most common in sectors other than civil construction which retains a stronger focus on direct employment commonly from the vicinity of the construction project (e.g. especially if outside metropolitan areas) using an 'alliance contractor approach' – a suite of contractors with which the head contractor aligns itself based on cost and quality of work (Human Resource Manager, Thiess, Interview Transcript, 20/6/2005, 11; Group Manager Industrial Relations, John Holland Constructions, 13/07/2005, 37). In the building sector of the industry (non-high rise residential construction) five percent or fewer onsite workers are direct employees of the head contractor. Ordinarily these include crane operators, safety personnel and materials handling crews, though, unusually, one of the majors now even contracts out its crane work.

With the explosion in the extent of subcontracting, respondents commented that the relationship between majors and subcontractors is now crucial. Higher level subcontractors indicated how they seek to maintain good rapport with subcontractors – including paying on time, facilitating subcontractors' work, assisting with sorting out contractual and employment challenges, and creating a safe and positive environment which 'makes people want to work on their project' (General Manager, Organisation Development, Client, Partner and Safety, Baulderstone Hornibrook, Interview Transcript, 22/7/2005: 43).

Initially establishing rapport with a subcontractor can entail other things, for example, establishment of programs to deliberately bring subcontractors in earlier in the planning stages so they are more engaged (Manager, Human Resources, St Hilliers, Interview Transcript, 25/10/2005: 17). Where direct employees leave and become subcontractors it is the practice in some instances to 'assist subbies to set up their own business. Because they have been helped, they often get 70-80 percent of their work from their former employer'. The vulnerabilities of subcontracting were also acknowledged: 'These get dropped off in a downturn...The way contracts are written makes it possible to cancel subbies' contracts if they are underperforming. [We] keep tight control over them, keep an eye on performance' (Manager, De Martin and Gasparini, Interview Transcript, 2/12/2005: 6).

Some subcontractors may assist others within their network of associates by 'carrying' the latter's employees through a downturn, an arrangement which constitutes informal labour hire. Another way of providing assistance to associated companies is through shifting to weekly, instead of longer-length, payment periods if there are financial pressures.

Maintaining quality of work is an ongoing issue in a heavily subcontracted environment. Majors attempt to do so through contractual control (above), and other practices such as establishing policies and procedures to ensure that subcontractors are well set up and bona fide businesses, and through the establishment of programs to induct subcontractors into the culture of the head contractor and screen out those that do not share this culture (Group Manager Industrial Relations, John Holland, Interview Transcript, 13/07/2005, 40; Employee Relations Manager, Bovis Lend Lease, Interview Transcript, 17/6/2005: 3).

Two key, related aspects of pyramid subcontracting are low profit margins and disinclination to training. A common claim is that margins are so low (less than five percent and commonly as low as two percent) that subcontractors cannot afford to have any low-productivity employees. Although apprentice wages are considered low even amongst their direct employees, subcontractors are reluctant to dedicate a qualified tradesperson to supervise an apprentice as this diminishes the productivity of the tradesperson. Profit margins generally no longer allow for this kind of 'investment': 'subcontracting pressures diminish [the] scope for employing apprentices – duration of work, competitive pressures, lack of qualified trades workers to supervise' (Senior Industrial Officer, CFMEU Federal Office, Interview Transcript, 25/7/2005: 1). Occasional 'islands of exception' exist, such as Australand, which engages direct employees and requires many of its subcontractors to take on an apprentice (Apprentice Manager, Australand, 14/02/2006: 5-6). The non-training situation is exacerbated by extensive use of labour hire workers. In common with the majors, subcontractors rarely employ directly all the labour they use but engage a core, direct workforce supplemented by labour hire workers to provide numerical flexibility, allowing them to respond to the changing scale of work and projects. Rarely do labour hire companies conduct training (Hall, 2000). The 'vicious circle' of non-training in labour hire was articulated by a union official:

I'm a builder. I ring up [telephone the labour hire company]. I want five carpenters. I don't want four carpenters and an apprentice. I'm paying for the supplementary labour so I'm not going to pay [for an] apprentice to come on the job. (Assistant National Secretary, CFMEU, Interview Transcript, 21/2/2006: 6).

Sole operators – businesses with only one person – have become commonplace. Many of these are 'bogus self employed' (Green and May, 2003) who would once have been employees but now either choose, or are required by subcontractors to establish their own business 'shell'. This allows subcontractors, constrained by unreasonably tight margins, to avoid payroll tax, workers compensation, superannuation and numerous other costs. It also intensifies the training loss. Some of the 'casualties' of pyramid subcontracting are training, health and safety and a clear sense by majors and subcontractors at successively higher levels of who is responsible when things go amiss.

In a revealing statement, the Human Resource Manager of a very large, infrastructure project won by a joint (two-company) consortium, commented: 'we can't find [a] direct workforce with skills needed so we must subcontract' (Interview Transcript, Thiess/John Holland, 7/6/2005 p1). 'Hollowing out' of the head contractors, elongation of the subcontracting chain and repositioning of construction labour from head contractors to middle and lower level subcontractors, or indeed the recasting of 'employees' as bogus self-employed has created a self-perpetuating circle. Even when a head contractor wishes to engage workers as direct employees, insufficient are available, forcing that company to subcontract and perpetuate the system of pyramid subcontracting.

Tight margins, commonly coupled with poor forward planning (Manager, Human Resources, St. Hilliers, Interview Transcript, 25/10/2005: 22,) means that 'the industry is getting harder' (Human Resources Manager, Multiplex, Interview Transcript, 17/10/2005: 22) and that 'successful subcontracting is hard' (Human Resource Manager, Multiplex, Interview Transcript, 17/10/2005: 54). A company must be good at work, cash flow and many other things. And it is 'hard' not just for the business entity of the subcontractor. It can also be hard for employees – for whom there is diminished prospect of training, dislodgment of employment benefits and security. The majors' success is also hard won in that managing a lengthy chain of subcontractors is enormously challenging. Arguably, however, this is a challenge that the majors have chosen over the alternatives, as they have transformed into high level financiers and corporate management shells in place of their former expansive and direct engagement as construction operators.

Subcontracting creates an increasingly specialised focus of work, reducing the capacity of the industry to exercise meaningful management of the broad-spectrum of project activities.

Specialisation is engendering a fragmentation of tasks that is compounded in a number of respects. Outsourcing of some functions distances project management from a hands-on approach to the project; resort to specialist sub-contractors results in the delegation of the different components of projects to separate and, more often than not, distinct and unrelated enterprises; and, there is an increased specialisation of tasks undertaken by more-narrowly trained workers. The transformation in the organisational focus of the major development companies represents the manifestation of this specialisation and fragmentation at the apex of the industry's pyramid organisational structure, which is duplicated down the chain. At each level of the workplace in this organisational structure, the lack of technical capacity to oversee a project tends to be reproduced because of the deployment of specialist managers and specialist trade workers. This is being institutionalised with the industry's reduced commitment to apprenticeship training removing one of the key mechanisms for training a multi-skilled worker capable of overseeing particular work processes of projects as a whole (Korczyński, 1996).

### **What Drives Change?**

Numerous factors, from the shift in scale to a global focus by the majors, to the detail of national employment, tax and other laws, to the local influences such as idiosyncrasies of the local labour market have intersected to reshape the construction industry in Australia. The following provides insights from the industry into some of the drivers of change.

There was evidence that the key purposes of diversification by the majors into property management and trusts is to generate a separate income stream (Senior Industrial Officer, CMFEU Federal Office, Interview Transcript, 25/07/2005: 6) and to get more control over risk (General Manager, Organisation Development, Client, Partner and Safety, Baulderstone Hornibook, 22/07/2005: 41-43). Major construction companies have sought to offload risk and not uncommonly have effectively passed on all risk. It is primarily the developer that takes on risk (risks of acquiring the site, obtaining development approvals, building permits, sale of properties and so on) but even developers seek to shift some of the risk 'by packaging projects and subcontracting out some of the risk to the subcontractors' (General Manager, Organisation Development, Client, Partner and Safety, Baulderstone Hornibook, 22/07/2005: 43).

Risk, financing and return on investment are crucial. In moving out of the sector which entails the most risk, majors have had to be innovatory in establishing themselves a new niche. Whilst subcontracting to shift risk is most prominent in the 'building' sector (i.e. residential construction), it is also becoming common in the civil sector with recent infrastructure projects having been structured specifically to spread risk between companies through joint project/venture arrangements (Human Resource Manager, Thiess/John Holland, 7/6/2005: 2). Much of the innovation in the industry is occurring in financial arrangements including public-private partnerships. Profit margins are 'getting squeezed' so tight (for developers around 25-30 percent and head contractors five percent) that many of the largest construction companies are shifting to projects which deploy their distinctive capacities for innovation to maintain competitiveness, including for example, Sydney's Olympic stadium, Breakfast Point development and Stock Exchange Building.

In high rise residential construction, margins were reported to be particularly tight making lost time or other forms of waste during construction more critical than usual in financial success (Human Resource Manager, Thiess, 20/06/2005: 23). Accompanying this era of tight margins, and extreme 'leaning' of head contractors, is increased cost of operation for many middle and lower level subcontractors who have found it necessary to upgrade operating protocols, such as those surrounding occupational health and safety (General Manager, Fredon Industries, 14/11/2005: 21-23).

### **DISCUSSION AND CONCLUSION**

This paper has presented evidence of extensive organisational change within the Australian construction industry. The growing removal of the majors from direct operational construction, elongation of the subcontracting chain, heightened self-employment and casualisation of work constitute a substantial reconfiguring of this fundamental industry. Amalgamation and concentration are evident in concert with a very distinct extension of subcontracting arrangements reflecting the joint processes identified by Appay (1998).

These patterns resonate with developments in the UK and in some other advanced industrial economies. Reorganisation of the Australian industry appears to have been less subject to critical appraisal than its British counterpart, yet the strong similarities between the two make evaluation of the latter particularly pertinent. Green and May's (2003) observation that customer responsiveness in construction has been redefined from meeting the needs of building users to meeting the needs of those who wish to profit from building users appears to depict the majors' re-direction from active engagement in construction to financing and remote coordination of the institutional apparatus for projects.

Since 'each link in the articulated chain of sub-contracts serves to dissipate the message' (Green, 2006: 16), it is clear that pyramid subcontracting requires closer inter-firm coordination than possibly ever before. Despite there being evidence of this occurring in the Australian industry, collaboration was not observed to be something that did not occur 'easily' or abundantly. In this regard, Bresnen and Marshall's (2000: 233) assessment that there remains real tension between the development of client-contractor trust and conditions that predispose contractual partners to act (rationally) in more 'traditional', adversarial or exploitative ways is salient. So too is their reminder that collaboration, rather than conflict, is the aberration to the norm.

Of particular concern is the massive dislodgement of standard employment in the construction industry. Greater resort to small specialist sub-contracting enterprises is having profound labour supply implications. These enterprises commit considerably less to apprenticeship training, but equally importantly they invest less in training generally than more broadly focused enterprises. This problem of the industry's retreat from investing in skill formation is reinforced by other systemic problems, such as the relative short life of many sub-contracting enterprises that have emerged as a consequence of the industry's organisational restructuring. The precarious position of many sub-contractors has discouraged investment in labour, be this in the employment of apprentices or other accredited vocational training, which has institutionalised labour shortages. The lack of viability of this sub-contracting structure has also acted as a structural disincentive in the creation and retention of a skilled work force. Precarious employment has underscored high rates of exit, discouraged new entrants of locally skilled workers into the industry, and increased recourse to offshore recruitment of workers under Australia's skilled migration program and the temporary migrant worker (457 visa) scheme (Toner, 2000). As in the UK construction industry, the continued casualisation of the workforce raises real questions about the industry's future capacity to deliver high-quality construction (Green and May, 2005).

The prevailing 're-engineering' mindset of industry managers fits with the way that construction industry leaders already think. As Green and May (2003) note, re-engineering reinforces the established approach of command/control and worker compliance. Drucker, et al.'s (1996) identification a decade ago that the construction industry was mostly typified by 'hard' (as opposed to 'soft') HRM appears to remain relevant. Features identified then – a small core and vast peripheral labour force, emphasis on cost efficiencies within competitive contractualism and continued prevalence of a short-term approach to labour management – in respect to the UK construction industry, continue in Australian construction today and in some instances have intensified. It appears that there remain tensions within Appay's 'core' firms as they struggle to effectively match autonomy with control, tensions which ricochet outwards and downwards throughout the subcontracting pyramid, fracturing and displacing quality employment.

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