

## **Title: Have the tables turned with supply chains and responsibility for OHS management in the Western Australian resources sector?**

### **Abstract**

**Purpose** – The purpose of this paper is to analyse human resource supply chains and the responsibility of occupational health and safety management using Australian evidence from two unrelated research studies in the resources sector.

**Design/methodology/approach** – The analysis is based on additional findings from the research projects using qualitative case study methodologies. The paper draws on interviews with the underground mining manager in study one and the OHS manager in study two, together with current literature on supply chains and OHS responsibility in Australia.

**Findings** – This paper uses examples drawn from two research studies conducted in the resources sector in 2011 to present the notion that there has been a shift in responsibility and management of OHS from the top of the supply chain to the bottom.

**Research limitations/implications** – The paper draws on two unrelated studies that investigated different issues in OHS management. There is a need to undertake specific research to confirm the argument that suggests that the OHS management systems are improving for the bottom of the human resources supply chain in the resources sector.

**Practical implications** – Findings suggest that in the middle tier resources sector the bottom of the human resources supply chains have robust OHS management systems and induction training, contrary to the weakening of OHS management in typical supply chains in other sectors.

**Originality/value** – Unlike manufacturing, healthcare, the public sector and transport, there is little research conducted in the resources sector researching supply chains and OHS management. This paper provides limited evidence of a differing picture in the resources sector than other industries; however it argues that further studies should be conducted.

**Key Words** - Supply chains, occupational health and safety management, resources sector, human resources, Australia.

**Paper type** – Research paper

### **Introduction**

In recent years there have been significant advances made in the study of supply chains and more broadly networked forms of organisation. However in much of the literature there is, implicitly or explicitly, an assumption that these structures are headed by large or dominant organisations, with size and respective power declining the further down the chain/network one descends. It is further suggested that the relative power of individuals and groups within

these organisations declines in line with their relative subordinacy, as do their terms and conditions of employment, including occupational health and safety (OHS).

Drawing on material that emerged from two case studies in the WA resources sector, we want to argue that this picture is overly simplistic and deterministic. The relationship between top tier firms and their network companion organisations is more complex than a simple pyramidal hierarchically ordered structure would have us believe.

In this paper we start by reviewing recent literature on small firms and supply/value chains. The second section looks at recent work on OHS and supply chains. After that we briefly review the WA resources supply chain. In section five we present our case study material, which is followed by our conclusions.

### **Small firms, value chains and production networks**

Much early work on the restructuring of supply chains, restructuring largely driven by the demands of Just-in-Time (JIT) production, simply assumed that small firms generally find themselves in secondary, and often dependant, positions in complex supply chains (see Rainnie, 1993). In such analyses large firms were seen to be reforming their supply chains by concentrating on a smaller number of much larger primary suppliers, and this reformation was assumed to have important negative consequences for workers farther down the supply chain. This early formulation has been reinforced by more recent work examining the changing strategies of lead or dominant firms. In this regard, Nolan et al. (2008) have outlined how intense competition has driven an unprecedented wave of industrial concentration and consolidation that has, in turn, generated a 'cascade effect', wherein the process of large firm concentration, through the simultaneous de-merger of non-core business and merger of core business, spreads across the value chain at high speed, usually to the assumed detriment of small firms. Such concentration and consolidation are having important implications for supply chains. In particular, there are increasing demands to meet the conditions of entry to them, as conscious coordination of the chains becomes ever greater with the growing integration of the kinds of subcontracting structures typified by Japanese *keiretsu*, Korean *chaebol*, and Wal-Martian business arrangements. In turn, this is producing

intense pressure on those bottom-tier firms which supply goods and services to global giants to engage in mergers so as to develop leading global positions. This means that if we examine firms not just as legal entities but also by their sphere of influence, far from being hollowed out or downsized large firms can be seen actually to have increased in size enormously in recent years through their closer embrace of those smaller second- or third-tier firms which were previously viewed as operating at arm's length from the firms at the top of the hierarchy. Moreover, it raises questions concerning how the characteristics of such second- or third-tier firms may in fact shape the personality of the large firms which are viewed as first-tier ones – 'embracing', in other words, is a two-way process which shapes both parties' behaviour.

For their part, Christopherson and Clark (2007) have examined dominant firms' capacity to strategically combine different locational and labour force options, whilst Morgan (2009: 589) has argued that TNCs in liberal market economies often lock themselves into clusters in particular localities but only weakly connect to these localities' own institutions. In such situations, they suggest, networks frequently take the form of isolated hierarchies which are perceived as bringing only marginal benefit to less powerful members of the chain and to the region in which they are located. In this light, regional small-firm clusters are viewed as important to TNCs (or dominant firms) only insofar as they support their international competitiveness. In such analyses, then, the dominant large firms are seen as the system integrators, the ones who are driving the chain's form, whilst the localities in which such clusters congregate are essentially seen as simply the bearers of large firms' actions. Moreover, financialisation – the rise of the financial sphere made up of institutional investors and executives of large corporations at the top of GCCs/GVCs/GPNs – is viewed as further

exacerbating the already-existing inequalities in the distribution of value in the supply chain, thereby making large firms even more dominant (Palpacuer 2008).

Against the longstanding view of small firms as being necessarily in secondary, subservient and often dependent positions at the ‘bottom end’ of production networks, with the condition of workers being taken as being equally weak and vulnerable, we propose a more complex dynamic. Drawing on a more sophisticated scalar representation (Herod 2010) we point to the emergence of very large organisations at different points within production networks, with significant implications for power dynamics and value creation, transfer and capture within these networks. Equally, this picture demands a significant re-evaluation of the assumed position of weakness of workers at the ‘bottom’ of such networks.

This raises the question of how such vertical thinking shapes our understandings of capitalism’s organization and the places of small and large firms within this. But it also forces us to ponder what changing the scalar metaphor we use to describe the relationship between large firms and smaller ones might do for our understanding of that relationship. Thus, whereas use of a vertical imaginary, wherein large firms are seen to sit at the top of a hierarchy, encourages a point of view which sees smaller firms as subservient, with power flowing downhill to the bottom of the hierarchy, perhaps adoption of a more horizontal imaginary, in which large firms are seen to sit at the centre of a series of ever-larger concentric circles representing rings of subcontractors and sub-subcontractors, may encourage a view of large and small firms which is more reciprocal – that is to say, one in which each is seen as capable of influencing the other and neither is assumed to necessarily be dominant over the other. This suggests that theorising the relationships

between large and small firms requires a more sophisticated understanding of scalar metaphors (for more on scalar metaphors and their implications, see Herod 2010).

In recent years, critical analysts, basing their approach on detailed empirical analysis, have developed a more nuanced response. In particular, two distinct bodies of work have emerged. These are focussed on, firstly, EWERC at the University of Manchester (see eg Marchington et al 2009) and FORBA in Vienna (see eg Flecker 2009). Both have a lot to say about the implications for work and employment of the current round of organisational restructuring, though there are important differences between them. The EWERC publications are based on a limited number of UK based case studies. The FORBA work is based on a more extensive survey of the outcomes of organisational restructuring across a number of sectors in 13 European countries. It is worth pointing out however that neither study was particularly focussed on small firms.

The conclusion to be drawn from the EWRC studies was that possible downsides to networked organisations could be overcome by the adoption of suitable managerial strategies, without there being a one size fits all approach. For FORBA the downside for employees in terms of deterioration of terms and conditions of employment, including OH&S, was more pervasive but crucially was mediated by sectoral specificities, local labour market conditions and the politics of place. This final point will be crucial in our examination of the resource sector in WA.

### **OHS, supply chains and small business**

Internationally and in Australia policy makers and practitioners alike support the use of health and safety management systems as a means to develop sound organisational safety cultures that protect the worker (Walters & James, 2011). Management of workplace health and safety is complex. The uptake of such systems is determined by cost and implementation time (Mayhew & Quinlan, 1997). Whereas, the successful implementation of such systems is determined by change processes that often include a champion for the change (Frick & Wren, 2000) while competing with other pressures such as the urgent need for production as is the case of the Australian resources sector (Bahn & Barratt-Pugh, 2009). These issues are regulated by legislative requirements to 'provide a safe system of work' and to have documentation in place to prove such analysis has occurred (OHS Act 1984). This is further complicated when supply chains in organisations are in play. Within human resources supply chains workers are engaged as contracted labour by a third party firm. Firms may engage contracted labour as a means to reduce costs and thereby improve competitiveness and financial performance (James, et al 2007). Four reasons for a negative effect on the use of contracted labour and occupational health and safety (OHS) practice in organisations were presented by James, et al (2007):

1. Contractors are most often smaller businesses that have less sophisticated safety management systems.
2. Managing contractors alongside in-house personnel can be problematic.
3. It is difficult to develop a 'collective voice' when using a mix of contracted and in-house staff and this reduces ownership of the safety culture.
4. The contractor may not invest in preventative health and safety measures (James, et al 2007).

Much has been written about the devolving of health and safety responsibility for contracted labour by the host organisation by Quinlan & Mayhew (1997); Underhill (2002); Johnstone and Quinlan (2006); and James, Johnstone, Quinlan & Walters (2007). Their research indicated several cases of host organisations attempting to shift the management and supervision of contracted labour back to the third party firm rather than take on that role themselves. Johnstone and Quinlan (2006) discuss the blurring of OHS responsibilities, employment conditions and the transfer of human resource management functions to labour agencies (Connell & Burgess, 2002). James et al (2007) explained that there was difficulty in distinguishing between self-employed workers and employees that is exacerbated when employing contracted staff when determining employer duties including health and safety responsibilities. Deakin (2004) called for more 'reflexive' forms of regulation that were less prescriptive allowing for employer flexibility and the sharing of employer duties between employment agencies and host organisations. Johnstone, Mayhew and Quinlan (2005) also argue that OHS regulation of contracted or outsourced labour is difficult. They maintain that their use "increases the likelihood of multi-employer worksites, corner-cutting, and dangerous forms of work disorganisation, as well as situations where the legal responsibilities of employers are more ambiguous and attenuated" (Johnstone, et al 2005:391).

Vickers, Baldock, Smallbone, James, Ekanem and Bertotti (2003) explain the reason for smaller firms not investing in health and safety is due to their narrow profit margins. Whereas Nichols (1997:14) argues that a lack of resources in smaller businesses creates 'structures of vulnerability' and results in employees reluctant to question their employers' management of OHS.

As James et al (2007) found, in many cases the third party firm is a small business and previous research has indicated that smaller firms have higher incidences of work-related injury than larger ones (Bahn, 2008; Baldock, James, Smallbone & Vickers, 2006; Fabiano, Curro, & Pastorino, 2004; Lamm, 2002). In addition, documentation of risk is problematic (Eakin, Champoux, & MacEachen, 2010) for smaller firms because their management systems generally lack formality (Lamm, 2002; Walters, 2001). The recent work of Barrett, Mayson and Bahn (2011) discusses the impact of increased regulation on smaller firms with the impending harmonisation of occupational health and safety in Australia (January 2012) and finds increased support and a reduction in convoluted paperwork is needed to assist in meeting compliance. Walters and Lamm (2003:5) discuss the burden of compliance of OHS regulation and small business and state that “conforming to regulations often places greater financial burden on small businesses as they are unable to spread compliance costs over a number of products, markets or plants”. Bell (1996) also noted that time was a factor for regulatory compliance for smaller business. Walters and Lamm (2003) argue that improved health and safety compliance can be achieved in smaller firms by face-to-face contact with change agents such as OHS inspectors and practitioners. How smaller firms adapt to regulation depends not only on their attitudes to compliance and specific knowledge of the OHS regulations (Walters & Lamm, 2003) but also on their broader business objectives, competitive strategy (for example whether they primarily compete on quality or price terms), and their firm’s capabilities (particularly managerial and workforce knowledge, skills and abilities) (Barrett & Rainnie, 2002).

### ***The Western Australian resources sector supply chains***



The structure of the resource industry GPNs is undergoing complex reorganisation. An intricate network is emerging linking together small and large organisations in a complex lattice work of relationships that include competition and cooperation at different temporal and spatial levels. At the same time, employment relationships within these structures are becoming increasingly multifaceted involving, inter alia, labour hire organisations, FIFO, temporary employment visas, and contractors. Taken together the two phenomena have important implications for the nature of work and employment, voice and representation, skill, career and commitment, as well as OHS in this strategically vital sector.

The resources sector is somewhat different to other industry sectors in their health and safety regulation requirements and employment arrangements. Specific regulation monitors health and safety in the mining industry in the form of the Mines Safety Inspection Act 1994 (Government of WA, 1994) and the guidance note General Duty of Care in Western Australian Mines (Department of Mines and Petroleum, 2011). There is evidence of clear regulatory requirements of the duty of both the host company and the contractor to provide safe systems of work for contracted labour and to share the responsibility of the health and safety of these workers (WA OSH Regulations, 1996:6 Section 23F; Department of Mines and Petroleum, 2011:2). The importance of unified and national health and safety regulation is the focus of the harmonisation of the OHS Act and Regulations in Australia.

Many second-tier mining companies have staffing arrangements that include contracted staff. It is not unusual to find companies with fewer employed staff than contracted workers and that contracted workers make up the largest part of their staffing mix. It is also a common practice in the resources sector to contract the use of equipment to undertake their mining

operations. Within the resources sector host companies or parent resources companies employ contracted labour from organisations much larger than themselves. So in this case the 'smaller firm' is in fact the host company. So, whereas supply chains in other sectors mainly start with the larger company at the top of the chain and finish with smaller, often individual contractors at the end of the chain (James, et al 2007), in this case in the resources sector we see the top of the supply chain as a second tier mining company with under 100 staff including contractors who are serviced by the labour supplier who might have ten times the staff. However, power does not necessarily equate directly with numbers employed.

This paper continues the discussion of supply chains and their impact on occupational health and safety situated in the context of the Western Australian resources sector. It uses examples drawn from two research studies conducted in 2011 to present the notion that there has been a shift in responsibility and management of OHS from the top of the supply chain to the bottom. That the power exerted by the top of the supply chain results in the contracted labour agent having more sophisticated safety management systems than the host organisation. This is contrary to the Australian and international literatures.

## **Method**

This paper uses evidence about human resource supply chains that emerged from two studies conducted in 2011. Both studies used a case study methodology; study one documented the change from contracted staff to parent company staff in a small underground mining company in WA as it occurred ; and study two investigated the hazard identification skills of employees of a large mining labour agency . Yin (2003) defines a case study as an empirical inquiry that investigates phenomena in real life contexts. Merriam (1998, p.27) defines case study in terms of the end product 'a qualitative case study is an intensive, holistic description

and analysis of a single instance, phenomenon, or social unit'. Whereas Miles and Huberman (1994, p.25) describe cases as phenomena which occur in a 'bounded context'. The two cases were 'bounded' by the parameters of the change process as it relates to safety compliance in study one, and the ability of employees to identify hazards in study two and does not detail all changes to the organisations that occurred at this time. The analysis of the data tapped into the strengths of qualitative research (Eisenhardt, 1989; Eisenhardt & Greabner, 2007; Yin, 2003) to understand how organisations make and adapt to change and how people within organisations work according to health and safety requirements.

Study one documented the change process at one of the mines of a second tier underground minerals mining operation in Western Australia. This company has three open cut mining sites and one underground mine, and an ore processing mill in WA. They moved from employing contracted staff in their workforce to solely in-house staff at the underground mine in August 2011. At this site they had staff from two different contractors as well as their own with a total of 77 employees, 54 of which were contractors working for the company and 23 direct employees. Not only were staffing issues a problem, but this mining site was also operating under one of the contractors OHS systems, including site inductions, procedures and machine operation permits.

Study two identified the skill level of workplace hazard identification using photographs of underground mining scenarios of 50 inductees of a mining labour contractor supplying workers to both the Australian and international resources sector. This labour contractor specialises in providing workers with specific skills in underground mining from exploration to production and rehabilitation. They are also suppliers of heavy mining machinery and

provide workers with varying skills such as labourers, diamond drillers and shift supervisors, with around three hundred contracted labour located across 5 mines in Australia and internationally. Interviews with 20 purposively selected OHS Managers in the WA resources sector provided additional data for the study. However, the two research studies (see also REFS) revealed unexpected findings in relation to human resource supply chains and health and safety practice that is the topic of this paper.

## **Findings**

Where in the not too distant past as the supply chain lengthened the OHS management weakened (Johnstone & Quinlan, 2006; James, et al 2007) it appears that recently parent second tier or 'junior' miners in Western Australia now expect their contracted labour to be supervised with sophisticated policies and procedures by their labour leasing agency. So much so, that the parent company's expectations of their labour agencies may result in the agency's documentation to be far superior to their own. Furthermore in some instances the parent company may even use the labour leasing agency's OHS systems including policies, safe work procedures and safety inductions in lieu of developing their own. An example of the latter occurred in study one whereby the parent mining company chose to no longer use contracted staff for a number of reasons including poor communication between the contracted staff and in-house management and the difficulties of managing contracted staff (James, et al 2011; Kochran, Smith, Wells & Rebitzer, 1994; Wright, 1994). The underground mine manager justified why the company was changing back to using only in-house staff, effectively identifying OHS regulatory issues creating problems with contracted workers including multi-employer worksites and ambiguous legal responsibilities for employers (see also Johnstone et al (2005)):

*“The reason we wanted to go owner operator is that the contractor staff because they were from a labour hire company didn't really want to accept responsibility for their people even though they were employed by them and using their equipment, so it*

*made it very hard for the Shift Supervisors because they weren't taking ownership of the contracted workforce”.*

This company moved to rehire their contracted staff as company staff within a three month period. They had limited and incomplete policies, safe work procedures or safety inductions and job descriptions in place. During the change over these documents were drafted, but not completed in time and the mining company continued to conduct business using the contractors OHS management systems for several months even though contracted staff were no longer employed at the mine.

James and Walters (2011:989) noted that there is potential for supply chain relationships to enhance health and safety standards in “that scope exists for powerful supply chain actors to use the market power at their disposal to improve such management. For example, by laying down requirements as to how it is undertaken and taking action to monitor and enforce compliance”. This notion that parent companies at the top of the supply chain can enforce health and safety standards is supported by a statement made in study two by an OHS Manager of a labour leasing agency to the resources industry who commented that:

*“As the contractor we are expected to have systems in place that are better than the parent mining company's we are supplying labour to!”*

This appears to be at odds with the finding of James, et al (2007) where they maintain that companies who contract labour may not have the ability to invest in preventative health and safety measures. It also challenges the findings of Nichols (1997) who argued that the use of contracted labour together with in-house staff resulted in the contracted staff receiving lower levels of supervision and training than the directly employed staff. Closer to home, a Victorian Parliamentary report investigating the labour hire industry in 2005 suggested that

such companies could be deemed non-compliant in relation to such activities as induction training and risk assessment (Economic Development Committee, 2005). Johnstone and Quinlan (2006:287) noted that labour agencies are obligated to “conduct proper inductions, engage in hazard identification, establish risk assessment and control processes, and ensure the proper instruction, training and supervision of workers placed with host firms”. Sadly, in their 2001-05 study examining prosecutions of labour hire firms in Australia, this was not the case. However, in this example, the labour leasing agency had little choice but to provide extensive safety management systems, training and supervision that was superior to the host organisation in order to place their contractors.

There is also anecdotal (????????) evidence from OHS professionals in the resources sector evident from our work with these companies that junior mining organisations in Australia ‘share’ and use each other’s safe work procedures and induction paperwork with documents doing the rounds between them, merely adding the company logos to make them their own. There is further anecdotal evidence that procedures are contained within these adopted safety systems documenting processes that the mine doesn’t or hasn’t ever used with equipment they have never had! The issue with this practice is that there is no ownership of the processes and no chance for employee involvement in the ensuring that the documents accurately reflect practice in their workplace (James, et al 2007). This is often a cost saving exercise to support the need for compliance in order to continue production and may in some cases only be a short term solution as was the case with study one while their own documents were developed. As an HSE manager complained:

*What you end up getting is a mish mash of one contractor’s procedures for this and another’s for that and we’ll use this bit and that bit. It’s an interbreeding system where we’re breeding a bunch of bastards! They don’t want to be seen as having a finger in the contractor’s pie, instead they just say “go and audit them”. To my mind that’s failing in their due diligence, failing in their duty of care. The project manager’s attitude is where going to leave it to the contractor and if the contractor stuffs up he’s the one going to jail, not us! One*

*of these days the coroner's going to say "hang on a minute you were the principal employer on this". Until we get some high flyers fined these guys won't sit up and take notice. So they are shaving millions of dollars of the bottom line because they are saying "we don't have to do that, we're not responsible. All you have to do is make sure the contractor is doing the right thing". (using a mish mash of procedures) ...they say we haven't got a procedure for say Journey Management so they'll use a procedure about mining operations from somewhere else.*

Unfortunately it is difficult to monitor such practices as the mining inspectorate in WA is short staffed and has large distances to cover in order to monitor compliance (personal communication WorkSafe WA representative). However it should be noted that 'compliance' requires documentation of a safe system of work that is regularly audited. There is no requirement to demonstrate that these processes have been developed specifically for each mine and the auditing process does not examine the accuracy of the procedures.

## **Conclusion**

It is not the purpose of this article to propose a new, more complex form of analysis of networked organisations and their implications for workers and their terms and conditions of employment, particularly those in small firms (see Rainnie et al 2011a, Rainnie et al 2011b). Instead we have simply taken issue with the implicit or explicit assumption in much supply/value chain literature regarding questions of size and power in what are taken to be pyramidal vertically ordered structures. In particular we take issue with the assumption that vulnerability in all senses necessarily rises the further 'down' that chain one descends.

The issues of successfully monitoring health and safety in supply chains has been the topic of several articles that indicate that the further down the supply chain the less robust the safety system. However, the balance of power within human resource supply chains in the WA resource sector appears to have shifted. The paper has presented evidence that the top of the supply chain in the second tier mining industry may not have safety systems that are as

sophisticated as their labour leasing agencies. It has also shown that although their own systems are insufficient they can demand that their labour leasing agent provides superior documentation, training and supervision as a precursor for hiring their contracted staff. However, continued research in the area of supply chains is needed to indeed investigate whether the evidence presented in this paper is occurring throughout the resources industry or that the two cases presented here are unique.

There is also a need to address the imbalance of host and contractor OHS responsibilities and safety system documentation and compliance. It is indeed worrying the ease at which smaller resources companies can copy and reproduce the documents of others and call them their own, without careful analysis of the applicability to their operations. In addition, it is hard to accept that this workforce can remain safe if workers are not involved in the analysis of the risks they face in their day-to-day operations. Further research is needed to develop strategies that encourage detailed whole of workforce analysis of workplace safety practice.

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