

The limits of influence

The role of supply chains in influencing health and safety management in the construction and shipping industries



Our research and development programme

IOSH, the Chartered body for safety and health professionals, is committed to evidence-based practice in workplace safety and health. We maintain a Research and Development Fund to support research, lead debate and inspire innovation as part of our work as a thought leader in safety and health.

In this document, you'll find a summary of the independent research we commissioned from Cardiff and Oxford Brookes Universities, 'The limits of influence: the role of supply chains in influencing health and safety management in two sectors.'



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The limits of influence

What's the problem?

Supply chains play an increasingly important role in the national and global economy, and many organisations are trying to use elements of the supply chain to improve their profitability, efficiency and market position.

Our research found that the supply chain can have positive and negative influences on occupational safety and health (OSH).¹ It suggested that direct influence from buyers can have a positive effect, while indirect influence tends to be negative. Buyers' attempts to influence suppliers' OSH management work better if the buyer–supplier relationship is collaborative and trust-based, and if there are adequate monitoring and penalty regimes. They're less successful when they clash with suppliers' business interests, or when there is a low risk of penalties if suppliers don't comply.

We commissioned Professor David Walters and Dr Emma Wadsworth of the Cardiff Work Environment Research Centre at Cardiff University, and Professor Phil James of Oxford Brookes University to look more closely at these issues.

The research had three key goals:

- to review existing research on supply chain relations
- to test our research propositions and find out how supply chain relations influence OSH management and performance in two different sectors
- to provide a better understanding of:
 - which types of supply chain are more or less supportive of effective OSH management
 - which aspects of these supply chains have the strongest influence on OSH standards
 - the best ways to design and put into practice supply chain interventions, and how far they should be legally based.

¹ Walters D and James P. *Understanding the role of supply chains in influencing health and safety at work*. IOSH Research Report 9.2. Wigston: IOSH, 2009.

What did our researchers do?

Industry focus

The researchers focused on the construction and merchant shipping sectors:

- Both industries have significant problems with work-related injury and ill health.
- Both are at the forefront of changes in the structure and management of work and business – including the deliberate use of supply chain relations to influence OSH.

Literature review

A literature review was carried out to understand the wider business processes and dynamics that lie behind supply chain effects, including a focus on the two chosen sectors.

Case studies

The team compiled case studies to investigate the quality of supply chain influences on OSH in four different situations; two in the construction industry and two in the maritime sector. The case studies examined how OSH practices were influenced by supply relations between:

- the developers responsible for constructing a major sports facility (the Olympic Park), one of their main contractors, and this contractor's relations with its subcontractors and their workers
- the developers of a major inner-city building and infrastructure project, one of their main contractors (the same one that worked on the Olympic Park), and its relations with subcontractors and their workers
- four tanker ship operators, the seafarers employed on eight of their vessels, and the major oil companies whose products they carried
- a ship management company, the charterers and owners of the container ships it managed, the crew of one of these vessels, and the owners of the goods it carried.

For each case study, the team reviewed documents and interviews with managers and workers. This helped them to understand:

- the contracts in place between buyers and suppliers, the organisations' rules and procedures and their standards of OSH performance
- managers' and employees' views about how buyer-supplier relations influence health and safety, and their ideas about the influence of external drivers such as trades unions.

The researchers also spoke to representatives of employer/employee organisations, trade bodies and trades unions in both sectors, to get more insight into the general validity of their findings from the case studies.

What did our researchers find out?

Supply chain relations

- The researchers found a range of supply chain features that help to influence OSH practices and outcomes.
- They noted that supply chain relations vary considerably in terms of their influence on workers' conditions in supplier organisations and support for improvements in OSH management and performance.
- Therefore, it is important not to over-generalise the ability to use supply chain relationships positively in influencing supplier health and safety.

Complexity and OSH challenges in construction

Construction is a highly fragmented and structurally challenging industry where large numbers of separate contractors often work together and in sequence, on temporary worksites. This results in complex relations between clients, designers, contractors and subcontractors which present major challenges for OSH management.

- These challenges contribute to the sector's poor health and safety performance and are the main reason for the supply chain orientation of recent health and safety regulations that apply to the industry in the European Union.
- While most of the industry's businesses are small and micro enterprises, there are also some very large operators engaged in high-profile building projects. These larger firms have been the focus of much of the political and regulatory attention given to OSH in construction over the last decade or so. They have been encouraged to find ways to improve health and safety performance – with procurement and supply chain initiatives featuring among these approaches.

Merchant shipping – a fragmented sector

Maritime trade is global by nature, so a lot of its activity takes place beyond the reach of conventional national regulatory scrutiny. This is a complex and fragmented sector in which vessels and the companies that own or manage them often have distinct features according to their trade. The industry has undergone major transformations in recent decades, driven largely by the price and delivery demands of clients worldwide. These have profoundly affected:

- the nature of shipping ownership and management
- the origins, recruitment and management of labour
- ship design and the design and location of port facilities
- experiences of work and its management in the industry, including health and safety at sea.

The hazardous nature of the industry has prompted efforts to introduce more globally applicable requirements for systematic health and safety management, to raise the profile of regulatory inspection and to improve international consistency in its delivery.

OSH performance of participating organisations

Available information on the organisations that took part in the case studies suggested they were all at the better end of the spectrum of health and safety performance for their respective industries. This was certainly the case for the two construction case studies and the principal contractor they focused on. In the two maritime case studies, robust data on health and safety were more limited. However, the general impression was that the companies in these case studies also performed well compared to the average for their trades.

Positive supply chain influences

The supply chains in each case study showed that buyers' requirements had a positive influence on the health and safety practices of suppliers. In the two construction case studies and in the tanker trade case study, these influences were quite strongly interventionist, featuring:

- health and safety requirements in procurement contracts
- projects such as certification schemes, training initiatives and co-ordination activities aimed at supporting suppliers to meet these requirements
- monitoring and surveillance of supplier OSH performance and practice.

The influence of business interests

The situation in the container trade case study was somewhat different. Generally in this trade, buyers are unlikely to intervene in the internal management practices of their suppliers. There is no obvious pressure from the clients whose goods are being shipped for either the ship operator or the ship management companies to comply with their requests about OSH management on board. In fact, there is rarely evidence of them imposing such requirements, for two primary reasons:

- it is not in the clients' business interests to do so
- the structure of the supply chain is too diffuse, and the position of clients too remote, to allow effective procurement processes and monitoring activities on board.

However, the researchers did find supply chain influences at work in the container trade – for example, in the relations between the charterers and owners of the container ship studied and the ship management company. There were also references to health and safety standards in the contract between the ship management company and the charterers. Further evidence showed that the companies were aware of:

- the business advantages associated with being able to demonstrate good practice in their approaches to health and safety
- the risk of damage to their business reputations if they were shown to have infringed regulatory OSH standards.

There was strong evidence in the container trade case study that these pressures worked with other demands flowing from the public regulation of shipping, which motivated businesses to achieve good health and safety standards.

Co-ordination and intervention

Looking in greater depth at workers' and managers' experiences of the operation of procurement strategies, at certification, training and co-ordination of activities on construction sites, and at the requirements and control of the major oil companies in the tanker trade, the case studies showed:

- how the contractual requirements of procurers are put into practice
- how they are perceived by the workers and managers of supplier organisations
- the nature and direction of buyer–supplier relations that influence health and safety practices and outcomes.

The case studies also gave a detailed understanding of workers' and managers' thoughts about the monitoring and surveillance they experience, showing how these interventionist strategies work towards ensuring compliance with buyers' health and safety requirements. The container trade case study showed substantial differences in the perception of procurer intervention experienced by the seafarers and their managers. However, their detailed experiences showed that supply chain influences – albeit acting in concert with other external pressures such as regulatory inspection – strongly affect compliance behaviour.

What does this research mean?

Multidirectional supply chain influences

The research broadly supports our earlier findings about the contexts and conditions of supply chain effects. It also shows that such effects can be both vertical and horizontal within supply chains and include both upward and downward influences on health and safety management.

The balance of power

The findings depart from our earlier research propositions in several respects, two of which may be especially significant:

- While there was evidence of mutuality and partnership among some first-level suppliers and their buyers, there was also a high degree of power imbalance between them in most of the supply chain relationships where procurement strategies were used to influence OSH. There was a sense that the suppliers believed they had little choice but to do what the buyers wanted if they wished to continue their business relationship.
- Where buyers exploited this power in the conditions they imposed on suppliers, there were possible negative consequences. In particular, additional burdens imposed on lower-tier suppliers to demonstrate compliance with procedures purely for the sake of 'audit trails' rather than good OSH practices could lead indirectly to poorer but unmonitored health and safety outcomes among workers.

Supply chain relationships and regulation

The research also suggested that leverage in supply chain relationships can be developed as one element in a constellation of influences acting together to raise OSH standards. All the case studies – and especially the one focusing on the maritime container trade – indicated that the positive influence of supply chain-driven effects on OSH standards may be more widespread than a focus on deliberate direct interventions suggests. Even where there wasn't an especially high level of buyer intervention, some suppliers supported good health and safety practice and performance because they thought it was in their business interests.

This is especially significant for policy issues, and it is important to consider the role of public regulation in this process:

- It might be possible to use perceptions about good OSH being good for business to develop public regulation in ways that would enhance OSH, especially for work activities that often lie beyond the reach of conventional regulatory practice.
- There may be further opportunities to extend existing regulatory interventions that focus on supply chain relationships, such as those in place internationally in construction and nationally in sectors including food, footwear and apparel.

However, further research would be needed to gain a better understanding of the relationship between regulation and business criticality in these and other sectors.

Don't forget

Like most studies, this one had limitations. Although the key findings show clearly that under certain conditions supply chain relationships offer opportunities to leverage improvements in OSH arrangements and standards, they always do so within contexts framed by regulation. There is no evidence in the study to suggest that they act effectively in the absence of, or as substitutes for, regulation or regulatory inspection. Instead, there is much food for thought concerning how regulatory strategies could be more attuned to exploiting the positive features of supply chain relationships to protect the workers whose health, safety and welfare lie at the end of these chains and who are increasingly remote from the reach of conventional regulation.

What's next?

This project included an investigation of supply chain influences on the Olympic Park construction site. Another report in the series looks at the Park initiatives and examines how key health and safety messages were communicated through the supply chain: 'Talk the talk – walk the walk: an evaluation of Olympic Park safety and communication initiatives', www.iosh.co.uk/olympicpark.

More related guidance – on 'Global best practices in contractor safety' – is available to download from www.iosh.co.uk/globalbest.

Our summary gives you all the major findings of the independent project report by Cardiff and Oxford Brookes Universities. If you want to read about the study in more depth, you can download the full report from www.iosh.co.uk/limits.

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