SAFETY CULTURE IN THE CONSTRUCTION INDUSTRY AS PART OF SUPPLY CHAIN GOVERNANCE

Background

This policy brief summarises selected empirical findings from the case study research conducted under the Lift-OSH project 'Leverage Instruments for Occupational Safety and Health', which was commissioned by the European Agency for Occupational Safety and Health at Work (EU-OSHA, 2023d). Researchers in a consortium of six research organisations from five European countries are responsible for the project implementation and the findings presented here. From the interviews and observations, we learned that main contractors and clients in the construction industry cases rely on a specific idea of 'safety culture' as a cornerstone of their occupational safety and health (OSH) management strategies. This policy brief outlines the contents of such a strategy and gives two different examples of it. The selected cases were best practice buying companies, the objective is to discuss the possible positive influence on OSH through supply chains. A more holistic discussion of supply chain influence including also negative impacts can be found in the full report of the Lift-OSH project (EU-OSHA, 2024).

Introduction

The construction industry is among of the most 'dangerous' sectors to work, across the EU (EU-OSHA, 2023a, 2023b, 2023c; Eurofound, 2022). The construction sector is traditionally among the sectors recording the highest incidence rates of (fatal and non-fatal) accidents at work (EU-OSHA, 2023b) and high shares of workers reporting that their health and safety is at risk because of their work (Eurofound, 2022). Even in a context of a changing world of work, where digital technologies and telework are becoming more prominent and new OSH risks emerge while existing OSH risks are exacerbated, occupations in the construction sector and the sector as a whole are still identified as high-risk by labour inspectors (EU-OSHA, 2023b). The most significant risks for craft and related trade workers in particular and for the construction sector as a whole are safety risks (falls, collisions, cuts), followed by physical risks (noise, vibration), musculoskeletal disorders and ergonomic risks, chemical risks, psychological risks and biological risks (EU-OSHA, 2023b, 2023c). Indeed, work in the construction sector involves many different types of activities. Importantly, workers in the sector are not only directly in danger from these hazards and risks through their own work, but they are also at risk from their colleagues' mishaps and incidents on the sites (e.g. dropping a tool from a scaffold and hitting a colleague). In the context of climate warming, the construction sector has been flagged as one where workers carry out intense physical work in direct exposure to sunlight and heat, and are thus at risk of heath stress (EU-OSHA, 2023a). Working hours also tend to be long (Eurofound, 2022). Construction relies heavily on non-standard types of work and on temporary workers, including migrants and posted workers, who were identified as a high-risk group within the workforce (EU-OSHA, 2023b, 2023c). Another characteristic of the construction sector is the temporal and spatial realities of the sector, and related to this, the high use of subcontracting. The workplace often shifts place or form ('mobile work' in a 'non-fixed workplace'), which always means that new and potentially unobserved risks can develop, thus making errors caused by the lack of planning and unforeseen events more likely (EU-OSHA, 2023c). Although construction projects can stretch over long periods, they are, by their very nature, temporal. There is a start and an end date, after which all involved actors move to other projects with a new constellation of actors.

The risks are further exacerbated by the economic challenges caused in a project-based sector where costs are one of the main factors in tenders — public as well as private, deciding who gets the contracts.

These economic pressures can be a catalyst for insufficient control of risks and hazards through the safety management system, and at the same time cause an increase in unsafe behaviours. Furthermore, the high degree of complexity in the organisation of large construction projects plays a role in aggravating OSH risks in the sector. Work processes must happen simultaneously, and they have to be carried out by multiple companies, each with their own management structure, and often from an array of countries, which in turn can result in language barriers. The high degree of complexity makes large-scale construction projects depend on strong management practices and instruments to ensure a healthy and safe work environment on sites.

Safety culture as increased awareness and mainstreaming of risk and safety

One response to this increased risk is an approach to safety management that is often referred to as 'safety culture' by managers and OSH coordinators in the sector. EU-OSHA defines safety culture as 'the totality of attitudes, (implicit) assumptions, beliefs, perceptions and habits of the members of an organisation that are relevant for OSH' (OSHwiki, 2022).

As the definition shows, safety culture is a broad descriptive concept that merely captures the assumptions and beliefs held in workplaces and organisations. However, the fieldwork conducted for the cases shows safety culture represents a specific concept in European construction companies, which is a crucial part of clients and main contractors' way of managing OSH across their extended subcontracting networks. In this understanding, safety culture is a normative concept that can be implemented and maintained in construction projects. The concept in this form denotes all efforts to increase workers' and management's awareness on safety, as well as various forms of integrative efforts to put health and safety front and centre in all decisions (mainstreaming) and thereby create 'managerial commitment' towards health and safety.

Scholars have previously criticised this view (c.f. Le Coze, 2019; Silbey, 2009) and stated that safety culture is not simply something that can be engineered or implemented at will by companies and OSH professionals. A workplace, in this case a construction site, is a complex social space with many different interpretations of what a good safety culture might entail, depending on regulatory and industrial traditions and many other factors. Relating to this, since safety culture is such a broad concept that has changed over time, measuring safety culture is challenging and the approach used to do so seems to differ across scientific disciplines (EU-OSHA, 2013).

However, it remains the chosen moniker for a string of related instruments and practices we have observed in our case studies. A relational approach to safety and health is used and referenced by both client organisations and main contractors in at least three of our four cases. Safety culture in each of these cases functions as a 'meta-instrument' — a symbolic framework that frames instruments and practices. Therefore it is crucial to understand what is meant by safety culture in the construction cases, as it is a contributing factor in the development of OSH strategies and the utilisation of practices and instruments.

Example 1 – Changing safety perceptions on multiple levels

The first example comes from a large and complex public infrastructure project in Belgium. All actors involved, on different levels, have particular attention for what they alternately call 'safety culture' or the 'safety atmosphere'. We highlight here the points of convergence between the different viewpoints present in the project, but also the areas where tensions come up. This allows to paint a nuanced picture of the building project's safety policies, and learn from both their good practices and their weaknesses.

From the top down, the public building client sees the creation of a shared and open safety culture on its building site as one of the main goals of its safety policy, and the foundation on which good safety outcomes will be based. The public building client itself developed a clear vision on what kind of safety culture should be promoted throughout the site. Central to this was the creation of an atmosphere where everyone is stimulated to talk about safety issues without feeling inhibited by potential punishments, thus leading to both a proliferation of discussions on safety and a clearer image of what is actually going wrong. The client deployed for this its own safety team, making safety rounds, supporting the contractors' safety experts and gathering data.

Crucially, this vision was to a high degree aligned with that of the HSE (Health, Safety, Environment) manager, who is employed by the main contractor and already before joining the project had a reputation of pushing for an open safety culture. Fostering a more confidential relationship with workers and making sure not to be perceived as 'policing' safety on site, the HSE manager tries to also emphasise this in the team of safety experts, who also go on regular inspection rounds. Besides safety personnel walking around on site to monitor work, concerns for safety are embedded in a number of formal processes for planning the different sub-sites, and coordinating work between subcontractors (such as a mandatory safety component in all safety meetings, regular safety education, posters with instructional pictograms, etc.). It was this tight connection between the safety team of the client and the HSE team of the main contractor that proved the driving force behind the expansion of this open and communicative safety culture throughout the site.

It is, however, not an easy task to let this engagement trickle down to all of the safety personnel, let alone the construction workers working on the project. Workers on the building site had their own conceptions of what they saw as an environment and an atmosphere conducive to promoting positive safety outcomes, and their own place within it. Workers were consciously cultivating collective attitudes towards safety that were linked to their expertise with certain specific tasks, the years-long experience of more senior workers and the safety approaches within their (subcontracting) firms. This was used to mediate between safety for workers and time and price pressures inherent to the tasks they were performing. Safety experts were, indeed, often perceived as policemen, only criticising them — often for trivial things — through indirect administrative channels, and not taking seriously their hands-on expertise. This of course fostered attitudes towards safety communication that were less amenable to open communication, making exchange of information between workers and higher-up echelons of the project rather difficult.

The approach of a positive and open safety culture promoted 'top-down' through the combined efforts of the safety management in the client firm and the main contracting consortium met its limits in the concrete execution by the safety personnel on the ground. Through the many complexities present in any large building project, piercing the barriers between management aspirations, their actual execution and the lived experience of workers remains a crucial challenge on many levels. A key to achieving this could lie precisely in the cultivation of communication lines between the different levels of a site and an atmosphere where communication can happen in a respectful fashion in both directions.

Example 2 – Mainstreaming OSH in a large infrastructural project

Safety culture was also the philosophy behind the OSH efforts on a large construction project in Denmark. Here, the client was the initiator and catalyst for the development of the strategy that rested on two primary pillars: a) make OSH concerns a factor in all decisions, meetings and documents concerning the project, and b) make sure top and line managers in both the client's and main contractor's organisations are committed to OSH in a way that is visible for all workers employed in the project.

Occupational health and safety are a factor in all documents relating to the Danish construction project. These extend from the earliest tender documents, over the final contracts, to the mandatory progress reports from all parts of the construction. This means that every actor who is contracted to the project is introduced to the safety efforts and rules from the very start of their cooperation with the client company. This is by design to make sure that the contractors and subcontractors learn early on: a) of the importance that the client company ascribes to OSH; and b) that they themselves know they have to show the same 'mindset' (as it is called by a manager) internally to their own employees and business partners.

Furthermore, the client company demands that OSH is a mandatory point on the agenda in meetings on all levels in the construction project. This implies that OSH is discussed during the daily 'toolbox' meetings where the individual work crews discuss the tasks of the day, and it is discussed when the project director from the client organisation meets with their counterpart from the main contractor. There are also arranged mandatory meetings between the safety coordinators, the OSH staff in the client

company and the social partners in Denmark on a regular basis. These are mandatory and written in the contracts.

Finally, to make OSH ubiquitous, the client requires the main contractor to organise campaigns on all sites to make safety concerns visible for everyone present on the sites. Therefore, one can see posters with safety messages in all common areas such as kitchens and restrooms. There are large screens showing practical information to all employees, where safety statistics and risk communication is one of the more frequent messages showing.

The other pillar of the Danish client company's safety culture strategy is, as already mentioned above, managerial commitment. The client company want managers to show enthusiasm and seriousness about OSH around the organisations, which in turn will inspire employees and subcontractors to do the same (this are the principles behind the strategy at the least).

Besides being important in the beginning of the project, managerial commitment also is a key element in the enactment of the practices used on the sites. This showed through in several case studies. In the Danish case, top management organises several types of weekly activities with the main contractor counterparts. The project directors of the two companies, for example, have three site visits each week where OSH is the primary topic. That means that the two top managers of the entire construction project walk a safety round and make comments about OSH issues such as lack of personal protective equipment, safety signs and so on.

Practical implications

This policy brief covers a subject that is regarded as pivotal for safety performance throughout building sites in Europe. At the same time, concepts like 'safety culture' or 'safety atmosphere' can remain rather illusive. As we have seen, they can mean several things, and usually do, depending on who you ask within a building project. To avoid the possibility that a focus on 'safety culture' remains an empty gesture, we suggest taking seriously its project-wide extent, and its communicative, relational dimension. Creating shared understandings of safety that can carry rich and open communication about OSH, incidents, near misses and so on a project-wide scale demands at least partially overcoming the hierarchical organisation of construction projects and the destruction of barriers between different levels. We propose here two types of governance practices, one contractual and the other relational, that could supplement each other in fostering increased safety awareness and performance in complex building projects.

A first key element concerns the relationships between client, contractors and main contractor. A clear and balanced division of financial risks and benefits, stipulated in advance between the different parties present on site, can be an important factor in promoting a trusting and constructive relationship between the firms carrying out a project. When financial interests are more aligned, this can serve as a crucial support for constructive cooperation on safety and health. As is the case in the Belgian construction case, we propose that any cost increases due to unforeseen OSH risks are paid in a predetermined split between the client and the main contractor. This goes together with clear agreements on the details of the safety policies, the procedures and key practices to be implemented. Model contracts or legal guidance could be provided for private building clients and public authorities, to make sure antagonism on price increases later on during the project's execution are avoided, and thus more attention can be given to cooperation on OSH. Clauses could be added detailing the safety practices and culture to be established, so that all parties are aligned from the start. Considering that safety culture has become a normative concept that captures not only workers' efforts and awareness but also those of the management ('managerial commitment'), contracts should also contain provisions on what is expected from the management of all the involved companies, for example in terms of participation in regular meetings, walks around the site and so on. A second key element would be an increased attention to bottom-up communication about safety. An improved involvement of workers, where their own expertise and practical knowledge are valorised and their remarks and concerns listened to by safety experts, could facilitate a more constructive and open safety culture on all levels of a building project. Examples of this that emerge from the case studies are toolbox talks or participation in formal meetings and training, but also informal exchanges during breaks. The idea is that workers feel that their knowledge and experience are taken seriously and comments implemented (rather than seeing a top-down

approach applied that does not consider their feedback). More research on ways to facilitate this can be an important first step. Next to obligatory educational moments or tests on safety, mandatory workers councils competent for formulating recommendations and raising concerns on safety and health could be set up. Trade union presence on building sites could be intensified, serving as an additional guarantee that workers' concerns are heard. In cases where formal worker representation is absent, efforts could still be made to select a spokesperson or someone who could serve as a bridging figure between workers and management as regards safety issues.

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