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# Chapter 12

## Implications for Safe Outsourcing



Stéphanie Tillement and Jan Hayes

**Abstract** This chapter describes some of the lessons highlighted by the different authors of the book. By assessing the different contributions, it discusses the main research and managerial challenges related to the nexus between safety and outsourcing practices. Two main issues are considered: (1) the implications of fragmentation and (2) the importance of addressing the temporal dimension and transience.

**Keywords** Outsourcing · Safety · Fragmentation · Temporalities · Transience

### 12.1 Introduction

This book was born out of the observation that in the face of an increased use of outsourcing in high-hazard organisations in a more and more varied range of activities, the effects of contracting on system safety were still little addressed. More importantly, looking at the debate and theory development in safety studies, we observed that the relatively few studies addressing this link were quantitative, rather static and distant from work situations and emerging and evolving collective practices. This is surprising given the recent developments of practice-based approaches in the field of safety [4, 5]. As such, we perceived that there is a need for research that is more empirically grounded, reflecting on and through practices, beneficial to both academics and practitioners and resulting from close collaborations between these actors.

All the chapters presented in this book rely on an in-depth understanding of the empirical field they are studying, while investigating very diverse outsourcing situations and thus each tackling specific issues. The chapters describe ten case

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studies regarding use of contracting in sectors from nuclear waste management to railways and the building sector and in lifecycle stages from design and construction to decommissioning and even regulation.

All cases suggest that the structure imposed by classical contracting (including separate organisations, fixed responsibilities and well-defined tasks) creates problems for those whose professional practice occurs in this environment. Operating a very hard line based on predefined definitions about who does what and who is responsible for what creates safety problems. This volume, focused on situations where part of the work is contracted out, uncovers problems that concern process and workplace safety more globally. Such issues deserve attention both from researchers and from practitioners. These problems arise in two interrelated areas: (1) the fragmentation of work and introduction of multiple boundaries and (2) the temporary nature of contracting arrangements and the significant dynamic, temporal dimension that is introduced. Given the relative lack of safety theory on which to draw, chapter authors have turned to various theories from other domains such as Science and Technology Studies (STS) and organisation studies to frame their work to bring answers to these problems and contribute to the literature. Examples include Russel and Tillement's use of the concept of boundary objects [10], Naderpajouh et al.'s use of a public accountability framework [9], Eydieux's consideration of organisational hypocrisy [3] and Griegel and Gould's use of theory of temporary organising [6]. Some of these can illuminate aspects of the fragmentation issue, while others highlight the transient nature of outsourcing arrangements.

## 12.2 The Problem of Fragmentation

In this book, safety is conceived as the product of actions and interactive dynamics between various stakeholders, including clients and (sub)contractors. These dynamics are affected by the structures and socio-material entities in place. The fragmentation of work in the contracting environment challenges many of the organisational preconditions for excellent safety performance. Fragmentation narrows the focus of those down the contracting chain in ways that may mean that safety outcomes no longer receive sufficient attention. The cases regarding use of outsourcing in regulation show this. Hayes, Chester and King demonstrate that the narrow interests of consultants can jeopardise a focus on long-term safety outcomes in the field of energy regulation. Similarly, Naderpajouh, Zhang and Hayes show that outsourcing the role of building inspectors has contributed to deterioration in building quality.

In many of the case studies included in this volume, we see that informal practices have grown up to compensate for the boundary between organisations to try to meet work requirements in practice. In some cases, these are not good for safety. Dechy and Largier's case shows work being done in some cases by people without the necessary qualifications in response to late changes in resourcing requirements. At the other extreme, Hara's chapter describes the case of bullet train construction in which case boundaries between contractors have essentially been collapsed.

The accident case reviewed by Hara suggests that ignoring interfaces might have downsides too if responsibilities become opaque. The best response for safety would appear to be moving towards a sensible mid-point as is proposed by Gotcheva et al. in the context of nuclear power station construction. They propose use of alliance contracting where the contract provides a framework for cooperation, rather than a way of transferring risk to others. These new forms of contracting favours co-creation and joint cooperation.

But outsourcing does not only involve inter-organisational boundaries: the use of (sub)contractors, whether for permanent activities (e.g. maintenance) or for temporary projects, always requires important reorganisation by the principal which may affect internal boundaries. Russel and Tillement show that a lack of understanding across intra-organisational boundaries can make effective temporary organising even harder. Interfaces defined by people who do not understand the work activity, often because they are distant from it, can be a major problem. We see this in the outsourcing of nuclear power plant operations or in managing turn arounds. It may also affect planning and the maintenance of well-informed, adapted knowledge and skills (both for in-house and for external personnel).

In the face of fragmentation and the resultant multiplication of boundaries, the chapters highlight practices observed in the field that go some way to compensating for the negative effects on safety. This includes restructuring activity to provide more integrated work scopes, appointing specific boundary-spanning agents, e.g. “utility coordinator” (olde Scholtenhuis) or project leader (Russel and Tillement). Other potential solutions are mentioned, which should be the subject of further studies, such as aligning payment structures with desired behaviours (not just minimising time spent), establishing contract styles to combat the side-effects of price competition or strong institutional devices to support inter-organisational coordination.

Many authors also insist on the importance of building and sustaining long-term relationships between clients and contractors as a possible answer to the issue of fragmentation. This leads us to our second main point, the importance of transience and temporalities when it comes to understand and managing the nexus between outsourcing and safe industrial performance. As implicitly described in this section, the temporal dimension is key in understanding and managing the consequences of fragmentation such as shorter-term focus, mismatched or conflicting timing norms between stakeholders (e.g. contractor and principal or several contractors) or a focus on efficiency rather than long-term outcomes such as safety, sustainability or learning. This is discussed in more detail in the next section.

### **12.3 Transience and Temporality**

Time has become a subject of scrutiny in the field of organisation studies [2], notably in so-called process studies, but is still largely ignored in the safety literature. Yet, as emphasised in many chapters in this book, the issue of time is crucial when it comes to understanding safe industrial performance. This is even more true when

outsourcing becomes central in the way of organising work. This volume, through the empirical studies on which it is based, encourages reflection on the temporal dimension of outsourcing. Outsourcing is studied as a dynamic process, which involves actors and relationships that evolve over time. Either explicitly (e.g. Tillement and Leuridan; Helledal and Pettersen) or implicitly (e.g. Hara; olde Scholtenhuis), all the chapters focus on temporally evolving phenomena, whether they be the emergence and normalisation of outsourcing practices (Tillement and Leuridan), the temporary nature (or not) of relationships in project-based organisations (Russel and Tillement), temporariness or transience of work structures (olde Scholtenhuis; Helledal and Pettersen), the long-term or short-term temporal orientation of actors and its effect on the quality of interactions and trust relationships (Hayes et al.; Dechy and Largier).

The chapters highlight several temporal orientations or foci associated with outsourcing that tend to hamper safety. Many organisations tend to focus on clock-time emphasising schedules and delays, resulting in increased temporal constraints and production pressures all along the supply chain (olde Scholtenhuis; Dechy and Largier). Many contractors consider that the client is mostly attentive to direct and short-term goals such as efficiency and pays less heed to longer-term imperatives such as safety. Contractors describe having little support when it comes to ensuring such long-term outcomes and, in some cases, even see consideration of such long-term goals as beyond their remit. This finding is not specific to situations where part of the work is outsourced but appears exacerbated in that case. It is observed in classic activities such as maintenance or construction but also, more surprisingly, in regulation and governance activities (Hayes et al.; Naderpajouh et al.). This last element is made worse by transience and the temporary nature of relationships between actors, which complicates the establishment of informal arrangements negotiated to deal with immediate contingencies. This is despite such arrangements being necessary for effective learning and the establishment of clear jurisdictions. Paradoxically, the temporary forms of organising that often accompany outsourcing tend to reinforce bureaucracy with its well-known effects on strict reliance on rules and rigidity.

The chapters sketch some practices that may help in resolving the temporal tensions with which organisations are confronted. First, in the face of transience, establishing long-term relationships between contractors and clients reinforces trust along the supply chain, supports the building of shared and negotiated practices to face unexpected events, and sustains the transmission and maintenance of skills. Contracts have also a key role to play and are clearly related to the first point. The chapters in this volume advocate for less rigid forms of contracting, such as alliance contracting (Gotcheva et al.). The main idea is to build contracts that are negotiated locally and so are more able to take into account the specificities of the activities that are contracted out, notably the level of complexity (olde Scholtenhuis). Such arrangements can include performance indicators, penalties and incentives that go beyond economic performance and short-term results by including long-term goals. Finally, all that precedes also shows the importance of setting institutions or institutional arrangements, such as regular review meetings to make sure that these

“ways of doing” remain robust and can be discussed and renegotiated to adapt to any contingencies of the “reality of the field” (Tillement and Leuridan, Hara).

## 12.4 Taking Stock and Looking Forward: Advancing Safety Theory

Since the late 1990s, an organisational view of accidents has become common thanks to the seminal research from James Reason regarding the Swiss cheese model and also the work of the high reliability researchers. Despite the focus moving from individuals to organisations, few researchers have acknowledged that, as a result of changing work practices, Rasmussen’s nested levels of decision-making no longer apply [8]. There is no longer a neat, linear progression in the social organisation of safety from individuals and staff, to management, company, regulators and government. New approaches are needed to deal with the higher level of system complexity.

The cases taken collectively progress the debate about the link between structure and culture. Hopkins argues that structure creates culture [5]. His thesis is that decentralisation in the way organisations are structured allows cost to take precedence over safety. He contends that centralised structures where safety information is valued and can readily travel up to the levels at which key decisions are made lead to the most informed senior managers and the best safety decisions.

Hopkins’ work is grounded in the study of large corporations but is silent on the subject of contracting. Contracting could be seen as an extreme form of decentralisation and therefore subject to all the associated problems for safety that he highlights. In the case of contracting, the financial performance of the entire chain is still linked and yet each organisation manages their work, including safety implications, independently (at least in theory). In this way, Hopkins’ theory predicts that outsourcing will create safety problems and indeed this is the case. Looking for the practical implications, improved communication of safety issues across organisational boundaries and aligning the interests of all parties are broadly consistent with his recommendations on effective structures for individual organisations.

All chapters in this volume offer situated visions and results of the outsourcing–safety nexus, which make it impossible to qualify it simply as being always positive and negative. As discussed, this conclusion depends on many factors linked to the characteristics of the organisations and of work activities. Taken together, the collection of chapters identifies several key organisational features that are useful in assessing the forces and vulnerabilities of a network of organisations in terms of safety and organisational reliability. The conclusions proposed in this book are in line with previous work that has paved the way for the identification of key criteria for defining “safety regimes” [1]. They complement them by adapting them to more distributed and temporary settings in which the issue of outsourcing is central. Three major characteristics can be distinguished, which overcome the specificities of each industrial

sector or activity, and which are tightly connected to the two main issues discussed in previous sections, i.e. fragmentation and also transience and temporalities.

The first issue concerns the formalisation and control of practices, jurisdictions and relations through contracts, rules, procedures and standards. Outsourcing leads to more decentralisation, which makes direct control more difficult. As Perrow underlines, “increasingly privatised and deregulated systems [...] can evade scrutiny and accountability” [7, p. 379]. Formalising, at least partially, expectations, roles and practices through contracts and rules is thus necessary. Yet, it is of major importance that these documents are aligned with the reality of the work that is being outsourced. This brings forward key questions that involve different actors and concern different steps in the outsourcing life cycle. The first series of questions relate to the very beginning of the life cycle, the decision to contract out: do the decision-makers have a precise knowledge of the activity being outsourced? How has this activity been described in tenders? Does it correspond to reality? The second series of questions can be asked once an activity is outsourced: how are contingencies, unexpected events managed? Do field actors know to who they should report anomalies once they are discovered? If contracts and rules appear ill-adapted to the activity to be performed, can contractors quickly report the problem and modify the rules/contracts?

The second issue relates to coordination and the management of boundaries and interstices. As we have seen, outsourcing increases “the volume of interactions that the system is forced to monitor”, with the danger that it “exceeds the organisational capacity to anticipate or comprehend” [7, p. 363]. The chapters revealed key boundaries that need to be diligently managed when it comes to ensuring long-term safety between organisations: some are inter-organisational (between contractors and the principal or between (sub)contractors) but intra-organisational boundaries must be considered too. Among the latter, the boundary between the “elites” [7] (top managers, decision-makers) and field workers is particularly critical. Empirical work reported in this book has described well the difficulties that may arise from the very beginning of outsourcing and throughout its life cycle when organisational elites make decisions about contracting with little knowledge of the reality of the activity, its constraints and the resources (including knowledge) that it requires. In particular, this may complicate the definition of the scope of action of each actor and lead to tensions or conflicts. This relates to the importance of being able to define and then constantly redefine the lines of responsibility and accountability between organisations, especially when it comes to safety. This includes regulators, whose responsibility and accountability has also to be defined. In the case of outsourcing, the issue of coordination seems particularly sensitive to the question of power, and balancing power between organisations and between the elites and those who really operate the system is even more important. Key questions include: who has the power to impose goals on whom? Is the coordination process supported by institutional and socio-material devices? Do mechanisms of coordination and negotiation exist, and do they involve all concerned actors? Is the organisation able to identify the key boundaries that can impact safety performance and how they might evolve over time?

The third issue has to do with knowledge, skills and learning. Inter-organisational boundaries, added to transience, requires re-thinking and re-engineering of learning programmes and practices. When part of the work is outsourced, knowledge issues are particularly critical for four reasons: (1) the necessary skills to perform an activity safely may be unclear; (2) part of the knowledge may be tacit; (3) the contractor or the client may be reluctant to transfer part of the knowledge when it represents a commercial advantage; and (4) the temporary nature of organising may reinforce phenomena of loss of knowledge or organisational forgetting. It is thus important that all organisations along the chain reflect on the following: Are the skills and knowledge necessary to perform the work precisely defined? Do the principal and the clients participate in this definition? What learning devices are implemented to enable knowledge transmission and learning? Are these devices adapted to the nature of knowledge and skills to be learned and transferred? What incentives exist to facilitate knowledge transfer while protecting each organisation's interests?

Finally, we hope that this volume and its conclusions will pave the way to future research that could usefully complement existing literature in safety by further considering the effects of new, yet nearly ubiquitous, forms of organizing that accompanies outsourcing practices. This work does not intend to reduce the complexity of current work situations and to prescribe a "one best way" but rather to acknowledge complexity and manage it better thanks to reflexive practices. The key features and the associated questions, which take the form of an analysis grid, intend to go some way to help all those interested in reflecting on and managing the effects of contracting on safety. It invites researchers and practitioners to engage in further research and fruitful discussions so as to develop innovative practices to manage the outsourcing–safety nexus in new ways.

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