Chapter 1

Outsourcing and Safety—An Introduction

Jan Hayes and Stéphanie Tillement

Abstract Organisational safety theory and research has not kept pace with changing trends in the way work is organised. Outsourcing has become very common and is known to be problematic for workplace safety. This book aims to extend consideration of the link between safety and outsourcing to system safety.

Keywords Outsourcing · Contracting · Safety · System safety · Work practices

1.1 Why Outsourcing and Safety?

In business parlance, outsourcing means contracting out a portion of a company's business activity to an external party, rather than doing it in-house. The contracted activity may be provision of a service or production of goods. This business practice has become ubiquitous since the latter part of the twentieth century with many companies choosing to conduct their activities using workers who are not directly employed by them. This is done to maximise profits using external resources to manage peaks in workload (which may be activity-related, seasonal or unplanned) and/or to provide specialist skills that are seen as no longer core to the organisation itself [1]. Cost savings arise as activities move from being subject to internal governance and are placed under the governance of the market.

Outsourcing has become so ubiquitous that questions have been asked as to whether its use has gone too far [5] and yet a recent study demonstrated the enduring popularity of outsourcing finding that the primary reason for its adoption remains cost reduction [4]. Coincidentally, many organisations are using more complex supply networks and yet putting less effort into supplier management to the point where

J. Hayes (✉)
RMIT University, Melbourne, Australia
e-mail: jan.hayes2@rmit.edu.au

S. Tillement
IMT Atlantique, LEMNA, Nantes, France
e-mail: stephanie.tillement@imt-atlantique.fr

‘some service providers have characterised their client vendor management functions as “chaotic” and “purely cost-focused”.’ [4, p. 12].

We use the terms outsourcing and contracting interchangeably to represent this way of organising work. In fact, often there are chains of contractors, each providing flexibility in the form of resources and/or expertise for the organisation above it in the chain. This potentially extends all the way to microbusinesses made up of only one person (or perhaps a family group). From the perspective of workers, this on-demand work pushes them into the gig economy where workers no longer hold many of the hard-won rights to paid sick leave and some level of job security that are afforded to employees. Online technologies have made real-time matching of available workers and those seeking services a reality [9]. This may hold the promise of boosting the economy, but precarious work of this kind is known to have an adverse impact on worker health and safety [10, 11, 13, 16].

Safety and outsourcing might be seen as an issue primarily for the services sector including hospitality, ridesharing services or personal care service workers, but such segmentation of the working environment has safety implications for high-hazard industry too. Major projects have always been born out of temporary organisations that bring together organisations with varying expertise allowing the ultimate facility owner/operator to ‘do what they do best’ and outsource everything else. Since the 1980s, outsourcing during the operational phase of hazardous facilities has become common, particularly with regard to maintenance activities [6]. This brings outsourcing into industries where system safety—the prevention of major disasters with the potential to cause significant numbers of public deaths and destruction of property—is a significant concern, in addition to the day-to-day safety and health of workers.

In contrast to these flexible but sometimes complex networks of organisations, the safety literature that focuses on organisational accident causation of major disasters tends to assume that, at least operationally, work is conducted by one organisation. This is true of the well-known Swiss cheese model [15] and also for research into high-reliability organisations. In her retrospective interview, Karlene Roberts highlighted the issue of organisational ‘interstices’ emphasising that more research was needed to understand how errors should be managed at ‘places where parts of organisations come together’ [2, p. 95]. In 2021, interstices worthy of study go well beyond interdepartmental boundaries and other such internal organisational interfaces to include boundaries between different organisations that work closely together with a common goal.

The way in which work is organised has also been seen as a causal factor in several major disasters. The official commission of inquiry into the 2001 Toulouse explosion at the AZF chemical factory found that complex chains of contractors and subcontractors were a critical factor in the accident [3, 14]. As result, the inquiry recommended that multi-tier contractor arrangements be banned on major hazard sites. The causes of the Deepwater Horizon blowout that so devastated the coastal environment around the Gulf of Mexico in 2010 were also linked to the way in which offshore exploration drilling is organised using consortia of specialist contractors [7].

Consideration of the impact of organisational reporting lines and hierarchies on the potential for major disaster has led to recent appeals for a greater focus on organisational structure and its impact on accident causation [8]. To Hopkins, the notion of structure refers mostly to the degree to which the way of managing major hazards is centralised or decentralised. It also designates the communication and reporting lines (notably with respect to safety concerns), the structure of incentives and the company priorities that are set by CEOs, boards and remuneration systems. Culture is defined as ‘the way we do things around here’ [8, p. 29]. This simple definition has several implications. Firstly, it means that culture is necessarily a characteristic of a group, whatever its size, and so inherently associated with collective practices. Secondly, Hopkins insists on the normative dimension of this definition, the ‘way of doing’ implicitly being ‘the right, or appropriate, or accepted way to do things’ [8, p. 30]. Thus, the emphasis on practice ‘does not exclude the importance of norms and values.’ Following this, ‘the culture of safety is a way of doing things that emphasises safety’ [8, p. 28]. Since collective practices largely depend on organisational characteristics, structure is a key variable in improving safety and preventing major hazards. In this view, a poor culture is not so much a cause of accidents but a consequence of a pathological organisational structure. If structure creates safety culture as Hopkins contends, that gives us even more reason to study the impact of outsourcing and the new structures it imposes on work. With these theoretical considerations in mind, we need research methods to study the impact of outsourcing on work practices on the ground.

1.2 Research Approach

Contrary to most existing studies of outsourcing that typically adopt a rather quantitative and macro-approach (based on analysis of incident data bases for example), the vast majority of the chapters in this book use a qualitative approach, studying outsourcing ‘from the inside’, ‘in the making’, which provides a novel perspective. Following recent developments in process studies [12], they offer situated and dynamic analyses based on vivid, rich and longitudinal data which are attentive to work activities, time and temporalities, and boundaries. They study the daily practices and interactions between the principal and the contractor(s) in the light of the lived experience and everyday working lives of those involved but also of longer-term institutional, professional and/or contractual arrangements. Many of the chapters also simultaneously study both parties and their inter-relations rather than favouring one actor’s point of view over another’s. This approach enables, as the findings put forward in the chapters show, development of a nuanced and balanced approach of outsourcing and of its implications for safety. This leads to the conclusion that outsourcing is neither always bad nor good, but that the effect on safe industrial performance depends on the outsourcing situation, the quality of interactions between the principal and the contractors and how these interactions are conceptualised and supported or not by organisational or socio-material devices. A central

debate regarding this is the balance organisations should seek between specialisation and standardisation on the one hand and adaptation and informal practices on the other hand.

Also, the different chapters present in the book address a wide range of activities, some that are often studied (e.g. maintenance or design) and some that are less represented in the research literature (production, i.e. core business activities, or regulation/inspection). This reflects an evolution regarding outsourcing, which is no longer limited to peripheral activities, but which concerns activities central to system safety and also how safety is controlled and regulated.

1.3 The Structure of the Book

This book invites readers to plunge into the diversity of outsourcing practices and explore how they emerge, develop, change or stabilise over time, with a focus on how safety is affected by these practices and conversely. As Hopkins encourages us to do, we address the way operating companies, contractors and subcontractors manage 'to do things' safely in different settings and organisational forms, from permanent to temporary structures and from operations or maintenance to governance activities. Thanks to this variety, this book paves the way to a comprehensive discussion of these complex and important issues by the combination of traditional and emerging views.

The first three chapters deal with outsourcing in the context of ongoing operations, two in the nuclear sector and one related to railways. In these cases, contract workers need to work alongside workers employed by the principal.

Tillement and Leuridan study an outsourcing process in the making at a nuclear plant. They find that the organisational distance between those who make outsourcing decisions and those who are currently doing the work which is to be outsourced is such that the tendered scope is a poor reflection of the work that needs to be done by the successful contractor. Building tacit knowledge accumulated over time into a contract scope is very difficult but necessary to ensure safe operations into the future. Finally, they show that moving to an outsourced arrangement is a dynamic process which must be designed to 'enable the transmission of skills and the renegotiation of practices and professional roles, which are necessarily built collectively and over a long period of time'.

Dechy and Largier warn that despite clear issues, 'the safety debate cannot be reduced to be for or against subcontracting'. They look at workload planning for outages at French nuclear power plants and the impact on maintenance contractors, finding that there is a large gap between work as imagined (all work defined four months ahead of the shutdown with scopes fixed) and work as done (lots of new items added and resource levels significantly uncontrolled with in some cases twice or three times the effort expended as originally planned). Workload planning is done with the aim of saving money, but in the end creates many short-term issues with work sometimes being done by people without the necessary qualifications in an

attempt to meet schedule limitations. Contracting provides the flexibility to remove resourcing constraints, but some constraints are safety-related and so should not be abandoned.

Hara's chapter describes how contracting is organised for design and manufacturing of vehicles of the Japanese bullet train. Despite use of multiple contractors, relationships between the operator and the contractors are established over years and all short-listed contractors are expected to contribute to the design specification against which they all prepare tenders. This collective approach is in significant contrast to arrangements described in other chapters. Contractual arrangements effectively force designers to share their ideas while requiring manufacturers to take overall responsibility and to share their expertise with competitors. Such collectiveness would appear to have the potential to address some of the issues raised by others about short timeframes and lack of learning, but it is not without problems. The collective approach where interfaces are not strictly managed by specifications and similar mechanisms appears to have contributed to the only serious bullet train accident.

The next four chapters study cases of outsourcing for temporary organising linked to supply chains for capital projects.

Gotcheva et al. have investigated the potential for use of relational contracting with nuclear industry personnel in Finland. The poor project performance of current projects, as exemplified by major project delays, suggests that there is room for improvement in contracting approaches currently used. The overall view of industry partners was that incentivising contractors and proponents working together would be an improvement to the current adversarial arrangements fostered by turn-key contracts. The study shows that attitudes are beginning to shift to more trust-based approaches.

The chapter by olde Scholtenhuis compares properties of mindful organising with typical qualities of contracted work using buried utilities as a case study. He shows how qualities of contracted work (specialisation, transience and price competition) conflict with organisational qualities for mindfulness, thus working against system reliability and ultimately system safety. Recommendations to improve overall reliability are to reduce interfaces between supply chain organisations through integration mechanisms, create contractual incentives that reduce transience and separate direct construction costs from mindfulness-enhancing costs.

Using the case study of Norwegian energy construction, Helledal and Pettersen use the themes of time, task, team and transition to consider implications of temporary organising for workplace safety. Although they are focusing on worker safety, rather than system safety per se, their findings have much in common with olde Scholtenhuis. The focus on task in temporary organising at the expense of broader organisational considerations 'does not encourage understanding the "bigger picture" that working with safety often needs'. Acknowledging that project organising has advantages, they note that safety models do not allow for temporary organising. In their view, the solution is not incremental adjustments to existing safety theories but rather a stronger focus on the link between temporality and safety.

In capital projects, commissioning marks the handover of a new facility from the contractors who have designed and built it to those responsible for ongoing operations. This is the focus of Russel and Tillement's contribution. Their finding that projects benefit from involvement of operations personnel is not new, but their focus on the lived experience of both project personnel and operators gives them a novel perspective. They show how boundary objects and boundary spanners can address this longstanding issue.

The final three chapters describe cases of outsourcing in regulatory settings.

Use of consultants by a regulator is the subject of the chapter by Hayes, Chester and King. The inherent tension between economic and technical regulation of gas utility companies is magnified in this Australian case study by use of consultants. The lack of in-house technical expertise on the part of the economic regulator leaves them taking advice from consultants who they have effectively tasked with making recommendations that companies spend less on projects, including those with system safety implications. Using consultants amplifies the cost saving orientation of the economic regulator, even when it comes to spending on safety-related items. This is done supposedly in the public interest to reduce energy prices to consumers but leaves them vulnerable to long-term degradation of network reliability.

Eydieux's chapter uses the concept of organisational hypocrisy to study regulatory approvals processes for nuclear facility decommissioning. In the first case study, the operator outsources key activities and then acts in their safety demonstrations as if the work is done in house. In the other case study, the regulator contracts out technical analysis of the operator's decommissioning plans. The contracted experts come to the conclusion that the way in which the operator intends to contract decommissioning work is problematic for safety. This is characterised as organisational hypocrisy in that actors say that outsourcing is problematic for safety, and yet in both cases, they do it anyway. The chapter appeals for a more pragmatic discussion of outsourcing situated in field practice, rather than preconceived notions that contracting is always either good or bad.

The chapter by Naderpajouh, Zhang and Hayes takes a different perspective on outsourcing and regulation by considering the results of privatisation of building inspection. Using a public accountability framework, and drawing on the Grenfell Tower disaster, their chapter highlights the structural problems inherent in using private sector people to fulfil a public sector role. The solutions must therefore also be structural.

Finally, along the way, readers will hear different stories, each bringing specific empirical and theoretical contributions, but all providing grounded answers regarding the complex and nuanced link between outsourcing and safety. We hope that this collection of chapters can serve as inspiration for future researchers.

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