Review

Working to rule or working safely? Part 2: The management of safety rules and procedures

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ABSTRACT

Part 1, the companion paper to this paper (Hale and Borys, this issue) reviews the literature from 1986 on the management of those safety rules and procedures which relate to the workplace level in organisations. It contrasts two different paradigms of how work rules and their development and use are perceived and managed. The first is a top-down classical, rational approach in which rules are seen as static, comprehensive limits of freedom of choice, imposed on operators at the sharp end and violations are seen as negative behaviour to be suppressed. The second is a bottom-up constructivist view of rules as dynamic, local, situated constructions of operators as experts, where competence is seen to a great extent as the ability to adapt rules to the diversity of reality. That paper explores the research underlying and illustrating these two paradigms. In this second paper we draw on that literature study to propose a framework of rule management which attempts to draw the lessons from both paradigms. It places the monitoring and adaptation of rules central to its management process and emphasises the need for participation of the intended rule followers in the processes of rule-making, but more importantly in keeping those rules alive and up to date in a process of regular and explicit dialogue with first-line supervision, and through them with the technical, safety and legal experts on the system functioning. The framework is proposed for testing in the field as a benchmark for good practice.

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1. Introduction

Part 1 of this paper (Hale and Borys, this issue) characterises two contrasting paradigms of the development and use of rules in influencing and constraining behaviour in work settings. We believe that these paradigms are relevant to any rules, no matter whether they are directed primarily at production, efficiency, quality, sustainability, or in our case safety, or at a combination of several of these. We talk in this paper of 'safety rules and procedures' merely to provide a focus, but believe, with Waszink et al. (1995), that rule sets for use at work can best be integrated, so that all rules relevant to a given activity are collected together rather than being scattered over several topic-specific rule books.

The review of the literature supporting these two models of rules and their development and use has resulted in the definition of a broad set of concerns and dilemmas, summarised in Table 1, copied from the literature review. The picture that emerges is of a gap between the reality of work and its routines and the abstraction of the (often written) rules that are supposed to govern it and guide behaviour to carry out that work safely (see also Borys, 2007). We have described two contrasting perceptions of violations of those written rules, either as deviations to be stamped out, or as inevitable and sometimes necessary adaptations to local circumstances to be used and reinforced. We have contrasted also the bottom-up development, through social interaction, of domain expert rules embodied in tacit knowledge, with the top down imposition of rules devised by external experts on operators perceived as fallible and relatively unskilled. We propose to reconcile these two views by making the monitoring and improvement of rules an explicit and central process in the rule management process and by arranging for explicit participation of those at the sharp end in the rule making and monitoring.

Central to any system of management of rules is how to cope with diversity and exceptions to whatever rule is formulated. Central also is the need to see rule sets as dynamic and to place the focus of their management on the processes around monitoring and change (flexibility), rather than purely on development and communication. We draw these aspects from model 2, together with the need for the rules which are formulated to be calibrated to the competence, motivation and trustworthiness of the rule users. From model 1 we draw the need for transparency in rule making, so that it is clear to both rule users and supervisors, and to auditors what the current, agreed set of rules is. We also draw from there the need to clarify whether there is a subset of 'golden rules' which are so universally applicable that any violation can be seen as a prima facie case for discipline. From both models we draw the general principle that explicit written rules and procedures should not be seen as the first means of control to be proposed for hazards. Design and layout to reduce the need to interact with hazards takes precedence, and training to implant rules in the heads of users, plus social control to keep them central to practice, are possibly preferred alternatives to written rules for use at the sharp end. These characteristics define the gap between procedures and practice; Dekker (2005) urges us to monitor the gap and try and understand why it occurs, while Knudsen (2009) urges us to stop bitching about the fact that the gap exists and set about closing it. What follows tries to do both of those. As such it tends to modify a number of steps in rule management from essentially model 1, top-down steps towards model 2, bottom-up steps to improve the use of rules in practice by subjecting rules to continual dialogue, debate and adaptation. There remains, however, a dearth of research exploring exactly how rules are used in practice, and we would call for more ethnographic research to progress our understanding at this level. We would also call for more intervention evaluation research, including an evaluation of the framework of rule management presented in this paper.

2. The framework

We base this paper on the framework developed in the earlier work of Hale and colleagues (Hale and Guldenmund, 2004; Larsen et al., 2004; Larsen and Hale, 2004). We present this framework as essentially neutral between models 1 and 2, both of which it can encompass. This framework, set out in Fig. 1, is a prescriptive categorisation of the steps logically necessary for the development, promulgation, use, monitoring and modification or enforcement of rules – see also Schulman (2010). We use the framework to assess whether rule management in practice follows this pattern, and whether the recommendations from literature are compatible with it and flesh it out with good practice.

The framework is also informed by those offered by Labour Inspectorate (1989), Energy Institute (2008) and Embrey (1999). In his CARMAN (Consensus-based Approach to Risk MANagement) method Embrey draws on active involvement of experienced operators in carrying out risk evaluation, drawing out best practices based on their experience, using a facilitator and translating this into training for competence and job aids as support. It also mirrors the steps proposed by Sundström-Frisk (1998) for work method change, starting with profiling of actual behaviour, its feedback to the work group to identify obstacles to safe behaviour and to

Table 1
Summary of main strengths and weaknesses of models 1 and 2.

Model 1	Model 2
Strengths	*Strengths*
• Makes rule-making explicit and easy to audit	• Recognises operators as experts central to rule making
• Makes consequences of rule violation explicit	• Recognises social processes as key to rule use
• Emphasises competence in rule-making and role of subject experts	• Sees rule-making as a continuous, dynamic process
• Logical, rational, engineering approach	• Links rules to the crystallised competence of organisational memory
• Works well for novices	• Recognises the importance of managing exceptions and their link to violations
• Proven effectiveness for simple, 'golden rules' (Behavioural Based Safety)	• Recognises the centrality of experience
• Emphasises the role of organisational complicity in rule violation	
Weaknesses	*Weaknesses*
• Sees operators as robots, lacking competence and social motivation and needing imposed rules	• Rule-making and modification process lacks transparency for auditing and for novices learning the skills
• Encourages a blame culture and negative view of rules and violations	• Undervalues the need for the organisation to explicitly manage rule development and use
• Sees rule-making as a one-off, static process, until accidents trigger rule modification	• Hides differences of interpretation and competence
• Fails to deal adequately with exceptions except as triggers for rule book growth	
• Tendency to bureaucracy and gap between rules and reality	