



Review

Working to rule, or working safely? Part 1: A state of the art review

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ABSTRACT

The paper 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 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. The paper explores the research underlying and illustrating these two paradigms, drawn from psychology, sociology and ethnography, organisational studies and behavioural economics. In a separate paper following on from this review (Hale and Borys, this issue) the authors 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.

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1. Introduction

The focus of this paper is on safety rules and procedures used at the workplace level in organisations. We do not cover the procedures and rules at the safety management system or regulatory levels (but see Hale and Borys (2011) for an extension of the arguments used here and in the companion paper in this issue (Hale and Borys, this issue) to those levels of rules). Throughout this literature review we are using the term ‘safety rules and procedures’ to mean any rule or procedure that impinges on safety, directly or indirectly. Some rules are almost exclusively directed at safety (e.g. those rules requiring the use of personal protective equipment), but many have other primary or subsidiary objectives related to quality, productivity, health, environmental control, sustainability, as well as safety. We do not wish to imply by the focus of this review on safety that there should be a separate set of safety rules, either physically or conceptually, isolated from the rules for conducting all of the other actions necessary to achieve the organisation’s multiple objectives. The experience of many companies (e.g. Waszink et al., 1995) has shown that integration of all the rules directed at all of the objectives of a given activity, in other words a rule set matched to the company’s processes, is far smaller and more efficient than one divided by objective. Hence, in what follows, the readers should always have this broad canvas in their mind’s eye.

1.1. The Janus faces of rules

Safety rules and procedures are presented in many publications on safety management as one of the cornerstones of the risk control system, the translation into specific detail of the top management commitment set out in the safety policy. So obvious is their importance felt to be, that they sometimes receive only a passing mention as something uncontroversial. Procedures form part of the written documentation required under OHSAS 18001. In the OHSAS 18002:2008 guidance to the 18001 Standard for Occupational Health and Safety Management Systems (British Standards Institution, 2008) ‘procedure’ is defined as a ‘specified way to carry out an activity or process’. The guidance uses the word ‘procedures’ frequently, to talk both about directing and controlling the safety of the primary processes of the organisation and to specify the activities of the safety management system itself (hazard identification, risk assessment, communication, participation, monitoring/auditing, emergency response, etc.). Safety management systems (SMS) such as ISRS (ILCI, 1990), TRIPOD (Groeneweg, 1998) and ARAMIS (Hale and Guldenmund, 2004), Hearts and Minds (Energy Institute, 2008) identify the management of procedures, or their failure, as one of the principal elements of their safety management systems (SMS). Procedures are seen to be essential (Energy Institute, 2008) because jobs are too complex for people to remember the steps, or to work them out in time, especially in emergency situations, because transparency of behaviour is needed to monitor and check it, to standardise tasks involving several actors and to provide organisational memory of the way processes work.

The literature on safety climate and culture also identifies rules and procedures and the workforce attitudes to them as key elements of safety climate/culture and perceptions (e.g. Pidgeon, 1991; Diaz-Cabrera et al., 2007; Flin et al., 2000; Guldenmund, 2000; O’Toole, 2002; Farrington-Darby et al., 2005; Mohamed, 2002, 2003; Prussia et al., 2003; Törner and Pousette, 2009). Studies such as that by O’Dea and Flin (2001) among Offshore

Installations Managers in the British North Sea show ‘failure to follow rules’ as the third most important perceived cause of accidents, after ‘not thinking the job through’ and ‘carelessness’. The plethora of legal rules and procedures surrounding safety and health, either in the form of high level objectives, procedural requirements or detailed action rules (Hale and Swuste, 1998), is seen as further proof of the need to define and document the way in which safety, and compliance with these regulatory rules, is to be achieved.

Reports of accidents, such as Challenger (Vaughan, 1996) point to the normalisation of deviance from rules as a primary cause of such accidents, whilst the enquiry into the Deepwater Horizon disaster (National Commission, 2011) castigates the company and the regulator for not having explicit procedures to govern changes in the well-drilling, –capping and –testing methods as used in that case. A Dutch study (Labour Inspectorate, 1989), analysing incidents of loss of containment in the chemical process industry, found 50% related to procedures, of which 10% where there were no or unclear procedures, 12% where the procedure was wrong and 28% where a correct procedure was not followed.

In this view, rules and procedures are seen as largely desirable and certainly unavoidable to allocate responsibility (and later blame in many cultures and organisations) and to define and guide behaviour in complex and often conflicting environments and processes.

Behind this logical, rational obviousness, however, there lies another ‘truth’ about the reality of safety rules and their use. Elling (1991) in his seminal study of safety rules in the Dutch railways showed that only 3% of workers surveyed used the rules often, and almost 50% never; 47% found them to be not always realistic, 29% thought they were used only to point the finger of blame, 95% thought that, if you kept to the rules, the work could never be completed in time, 79% that there were too many rules, 70% that they were too complicated and 77% that they were sometimes contradictory. Studies by DuPont for British Rail (Maidment, 1993) showed similar problems in the UK. He and others (Norros, 1993; Amalberti, 2001) argue that there are already too many rules in most complex technologies and no more are needed to make them safer.

Figures from Embrey (1999) from a survey of some 400 operators and managers in the chemical industry about their reasons for non-usage of procedures include 40% finding them unworkable in practice and 62% that if followed to the letter the job could not get done in time, 48% find them too restrictive and 44% too time consuming, while 57% think people are not aware that there are procedures laid down for the job they do. 70% felt that people assumed they knew what would be in the procedure, 70% preferred to rely on their own skills and experience and 19% felt that experienced people do not need procedures, while 34% resent being told how to do their job and see rules as a restriction on their freedom of choice and a slur on their competence. Similar attitudes have been found in a number of studies since (e.g. Sundström-Frisk, 1998; Bax et al., 1998; Martin, 2001; Parker and Malome, 2004; Laurence, 2005; Shaw et al., 2007; CIRAS, 2007) The CIRAS (2007) report also indicates that breaches of rules seem to be increasing as a proportion of confidential reports from the rail industry in the UK, with 51% on average being intentional violations of rules (100% of those concerning sub-contractors) and 31% ignoring best practice in favour of own methods. The expansion of rule books and procedural manuals, risk analyses and audits, planning, monitoring and reporting tasks and documents has also been linked to a significant shift of time spent by managers from hands-on

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