Scandinavian Journal of Management (2012) 28, 340–351

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International expertise and local know-how in the trading zone

Andreas Diedrich [a,*], Alexander Styhre [b,1]

[a] Gothenburg Research Institute, School of Business, Economics and Law, University of Gothenburg, Sweden
[b] Department of Business Administration, School of Business, Economics and Law, University of Gothenburg, Sweden

Received 26 April 2011; received in revised form 18 April 2012; accepted 12 June 2012

KEYWORDS
Trading zone;
Crisis management;
Professional organizations;
Collaboration;
Expertise;
Health care

Abstract The management of risk and crises is increasingly seen as a matter of mobilizing formal, rational and calculative systems. Still, the capacity to understand and evaluate the social context within which risk and crises are embedded is of great importance. Examining the case of the outbreak of Marburg haemorrhagic fever in Angola in 2004–2005, the concept of trading zone is proposed as a mechanism bridging international expertise (in this case, that of the medical experts of the World Health Organization) and the local actors' (Angolan health care workers, elders, etc.) understandings of the needs and demands of the community. Recognizing that risks are by definition impossible to fully anticipate, management practice, as part of organizing should emphasize not only rational systems for monitoring and controlling risk and crises, but also the value of including trading zones and a metacode as a pidgin that facilitates collaboration between heterogeneous groups in such zones, each understanding their reality based on local, cultural codes.

Introduction

In contemporary society risks, rather than being embedded in common sense beliefs, are increasingly calculated and managed (Douglas & Wildavsky, 1982; Lakoff, 2007). In professional fields such as financial trading (Willman, Fenton O'Creevy, Nicholson, & Soane, 2001), engineering work (Feldman, 2004) and the health care sector (Schubert, 2007), increasing attention is given to risk management procedures (Besley & Ghatak, 2005; Holt, 2004; Power, 2004, 2005) involving a variety of mechanisms and routines. Weick and Roberts (1993) have proposed the term "heedful interrelating" to understand how "high reliability organizations" (Weick & Sutcliffe, 2007) such as nuclear plants, airports, military technology systems, and so forth, function on basis of the ability of all involved parts to take the role of the other and avoid unnecessary or harmful conflicts and controversies. Other researchers (e.g. Perrow, 2007) examine the various layers of control systems monitoring activities including risks but also point out that such control systems are not infallible (e.g. Helms Mills & Weatherbee, 2006) and therefore may produce what Perrow (1984) referred to as "normal accidents," accidents that occur when the control systems suffers from glitches or design failures. Seen in this

* Corresponding author. Tel.: +46 31 786 54 04; fax: +46 31 786 56 19.
E-mail addresses: andreas.diedrich@handels.gu.se (A. Diedrich), alexander.styhre@handels.gu.se (A. Styhre).
[1] Tel.: +46 31 786 65 68.

0956-5221/$ – see front matter
http://dx.doi.org/10.1016/j.scaman.2012.06.001

perspective, accidents, technological breakdowns, and malpractices are not ''irrational'' occurrences in an otherwise rational and self-enclosed system of social practice. Rather, they are events that cannot be fully anticipated, predicted or planned, no matter how many resources are consumed. ''Management theory may not be composed entirely of 'pragmatic paradoxes'. . . . but, like many other forms of thought, it does tend to rationalize away the paradoxes, chance, luck, errors, subjectivities, accidents, and sheer indeterminacy of life through a prism of apparent control and rationality,'' Grint (1997, p. 9) says. Needless to say, such failures are treated as major concerns having substantial practical and political consequences. However, rather than thinking of such events in moralist terms as being indicative of poorly designed routines, lax attitudes among actors, or political neglect, the failure of risk monitoring systems needs to be explained on basis of organizational practices and arrangements (Perrow & Guillén, 1990). Following Perrow (1984), failures are always embedded in calculated risk-taking and rather than thinking of failures as unintelligible violations of an instituted rational social order, they need to be understood as interrelated and complex social systems no longer effectively sharing data, information, and know-how, leading to a situation where actors are incapable of making sense in an informed and heedful way. Using the concept of *trading zone* proposed by the historian of science Galison (1997), a form of ''shared ground'' for collaboration between heterogeneous actors sharing some joint interests but basically operating on specialized expertise, the paper reports a study of the outbreak of the Marburg virus in Angola in 2004–2005. Galison (1997) uses the concept of the trading zone as an analytical term helping to understand how the professional scholarly field of physics is organized into two domains, as an experimental activity and as theoretical work to formulate theoretical frameworks lending themselves to empirical investigations. In our use of the term, the trading zone is in addition to its analytical merits introduced as a normative model for how local and global actors may fruitfully collaborate in crises situations. The study demonstrates that the WHO medical experts were unable to take advantage of the expertise and understanding of the local conditions of the Angolan health care workers and other local stakeholders, resulting in a number of negative consequences for the WHO's efforts. The two categories of health care workers (one international and highly professional group and one local, less prestigious group of health care workers and other actors in the community) failed to jointly construct a trading zone where their specific expertise could be shared and more effectively combined for the benefit of both the patients and the community at large. Drawing on the vocabulary of Weick and Roberts (1993) and Weick and Sutcliffe (2007), the absence of heedful interaction or mindfulness, especially on the part of the WHO experts, undermined the possibilities for a more thoughtful collaboration. The study thus suggests that the WHO may need to reflect on, and even rethink, their working routines and their ability to create meaningful trading zones with local stakeholders such as health care authorities or community leaders. This however demands an abandoning of the attitude that Western, technoscientific knowledge is by definition superior to other forms of ''local'' knowledge. For, as Turnbull (2000) argued, this ''great divide'' between these two knowledge systems has caused many of the distribution problems of knowledge in society.

The study contributes to organization and management theory by underlining the value for heterogeneous professional groups to establish trading zones at an early stage of collaboration and to actively seek to overcome various forms of groupthink (Janis, 1982), enacting the moral belief that specific groups have the competence and authority to act on their own in isolation from the interests and opinions of other actors or the broader public.

The paper is structured accordingly: First, the concept of trading zone is introduced and discussed. Secondly, the methodology of the study is accounted for. Third, the empirical material is presented, and finally some theoretical and practical implications are outlined.

The concept of trading zone

Galison's (1997) study of the community of physicists centres on the separation between theoretical physicians and experimental physicians. Theoretical physicians engage in formulating theoretical frameworks and meaningful conjectures, while experimental physicians organize and carry out experimental activities on basis of theoretical frameworks. While these two categories of physicists are operating relatively autonomously, attending different conferences and publishing in different journals, they are still interconnected in what Galison (1997, 1999) refers to as ''trading zones''. These trading zones are joint spaces where the two categories of physicists can meet and exchange ideas. ''I intend the term 'trading zone' to be taken seriously, as a social, material, and intellectual mortar binding together the disunified traditions of experimenting, theorizing, and instrument building'', Galison (1997, p. 803) argues. Such ''disunified professions'' may thus benefit from identifying spaces or occasions to meet and exchange ideas and information, construct joint professional identities, and settle conflicts and controversies. Galison's concept of the trading zone is thus analytical, enabling an understanding of how domains of expertise may be epistemologically and geographically separated, while still maintaining a shared domain of collaboration. That is, the trading zone concept enables specialization at the same time as groups of expertise are collaborating. Galison (1997) says:

> 'Collaboration' as a term is helpful insofar as it indicates different individuals or groups aiming at certain shared goals, but we can have gone further toward a specification of how the coordination takes place. Indeed, far from melting into a homogeneous entity, the different groups often maintain their distinctions, whether they are electrical engineers and mechanical engineers, or theorists and engineers, or theorists or experimenters. The point is that these distinct groups, with their different approaches to instruments and their characteristic forms of argumentation, can nonetheless coordinate their approaches around specific activities. (Galison, 1997, pp. 805–806)

Collins, Evans, and Gorman (2007, p. 658) emphasize communication and define a trading zone ''[a]s locations in which communities with a deep problem of communication manage to communicate. If there is no problem of communication there is simply 'trade,' not a trading zone.'' Gorman