

Chapter 2

Innovation, Learning, Communities, and Actor– Networks of Practice

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ABSTRACT

This chapter addresses the question: Is there a virtuous circle between situated learning within communities of practice and the corporate pursuit of innovation in large companies? The authors trace a succession of ways in which it has been formulated, reframed, and addressed across a range and sequence of qualitative studies. Overall, they argue for more ethnographic studies of organizational learning and innovation and recommend further use of actor-network theory, which has potential to add considerably to communities of practice theory. The authors illustrate this argument in the chapter through a discussion of Carlile's (2002) important paper and cite a number of other studies that use actor-network theory in combination with communities of practice theory.

INTRODUCTION

In this chapter we examine the links claimed between situated learning and innovation through communities of practice (Brown & Duguid, 1991; Carlile, 2002, 2004; Swan et al., 2002) and examine the different ways these links have been established and explained. In our own work, we have critiqued the community of practice tradition from an actor-network perspective (Fox, 2000, 2002; Vickers, 2005; Vickers and Fox, 2005, 2010) and the later

part of this chapter will examine how this critique may apply to the study and practice of innovation.

Broadly, two ideas are involved in the links between situated learning and innovation through communities of practice. The first is that 'non-canonical' communities of practice operate under the radar of top management and formal organization. Hidden in the interstices of the organization they incubate and nurture new ideas that generate innovation (Brown and Duguid, 1991; Wenger, 1998). That is, situated learning develops bottom-

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up within communities of practice and drives an informal form of organizational innovation. This realization stemmed from Brown and Duguid's (1991) discussion of Julian Orr's PhD, an ethnographic study of Xerox photocopier technicians (1990a) and Lave and Wenger's (1991) discussion of five anthropological studies of similar forms of situated learning within a variety of communities of practice, from tailors to naval quartermasters. Once this realization that non-canonical communities of practice within organizations were potentially sites of situated organizational learning has been absorbed by the academic research communities and management practitioner community, the debate on the value of communities of practice expanded (Wenger, 1998) and a new wave of consulting interventions emerged which deliberately sought to build communities of practice *by design* in order to improve organizational learning, knowledge management and innovation (Wenger, 1998; Wenger and Snyder, 2000; Wenger, McDermott, and Snyder, 2001; Agterberg, 2010).

However, we note that, while all non-canonical communities of practice have some potential to assist situated organizational learning, there are questions as to which of them have the most potential and *how* this potential may best and should be realized. That is, there are both technical and ethical concerns to be understood. Brown and Duguid (1991: 54) offered some suggestions about these questions in their conclusions drawing attention to the wider "organizational architecture" that might best support what they call "learning-in-working and innovation". We will return to this issue later in the paper. For now, it is worth noting that non-canonical communities of practice such as the photocopier repair technicians studied by Julian Orr (1990a, 1996) were of particular interest for two reasons: (a) as employees of a large corporation, they had close day-to-day dealings with a wide range of that corporations' customers and were therefore in a good position to understand customer needs, wants and problems with the

photocopying equipment Xerox supplied; and (b), as employees of Xerox, these field-service staff were formally treated by the management in ways that largely ignored their potential usefulness by attempting to deskill them in order to streamline their work to deliver efficiencies for the company. However, this reduced the company's capacity to learn *organizationally* from its' own technicians' experience with its products, services and customers. In other words, the organizational architecture did little to assist and quite a lot to weaken the potential organizational learning possible at the time.

The second idea about the links between situated learning, through communities of practice, and innovation is that the planned pursuit of innovation for the sake of competitive advantage, pushes established 'canonical' (or formally organised) communities of practice such as R&D departments to extend their knowledge and know-how beyond the best they currently have (Carlile, 2002). That is, the deliberate quest for innovation also drives situated organizational learning within particular communities of practice.

Thus the claim is that innovation is both a potential spin-off from situated organizational learning and that situated organizational learning¹ is a consequence of the planned pursuit of innovation. So there should be a virtuous circle between learning and innovation: learning to innovate and innovating to learn. In Brown and Duguid's formulation (1991) situated learning takes place in work groups, whether these are 'canonical', formal and official, or 'non-canonical', informal and unofficial. Either way, work is the site for situated learning and innovation is one result of such learning. At the same time formally established R&D departments, whose formal task is to innovate, also contribute to situated organizational learning in many ways. This chapter will summarise and critically evaluate these arguments and suggest implications for further theory development, research and practice.

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