Chapter 10
Knowledge on the Move: Expansive Learning Among Mobile Workers

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ABSTRACT
Mobile workers are professionals who frequently work on the move, far from a fixed workplace, often performing knowledge-intensive activities. Mobility challenges creation and sharing of knowledge among these professionals, and the existing literature lacks powerful theoretical frameworks conducive to creating supportive learning pathways for them to meet these challenges. This chapter is a theoretical and practical contribution to fill this gap by analyzing a case of expansive learning initiated by mobile workers themselves. Based on longitudinal participant observation, the study traces the steps undertaken by these professionals to create a new artifact that helped them to know what, when, where, and how they needed to perform their work activities.

INTRODUCTION
The knowledge workforce as known in the past is shifting. Global economic factors, increasing professional specialization, improvements in customer relations, and rapid technological advancements, along with the diffusion of information and communication technologies (ICT) and the acceptance of corporate bring-your-own-device programs, has driven a considerable increase in the number of mobile workers in

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organizations (Chen, 2015; Jarrahi & Thomson, 2017; McDaniel, Reitsma, & Duan, 2016). According to McDaniel, Reitsma, and Duan (2016), “the percentage of information workers working away from the office at least a few times a month—whether it be from home or while traveling or commuting—has increased more than 60% in just three years (2012 to 2015).” In spite of this increase, little is known about the consequences of mobility in organizational practices (Karanasios & Allen, 2014; Reynolds, 2015), or about professional practices outside traditional centralized offices (Jarrahi & Thomson, 2017).

Knowledge work involves activities to create new ideas, new technology or creative content and problem-solving capabilities, and thus regularly requires collaboration due to the complexity to perform it alone (Nelson, Jarrahi, & Thomson, 2017; Vartiainen et al., 2007). However, the context of mobile knowledge workers differs from the work environment of fixed knowledge workers. The term “mobile” means the freedom these workers have to perform their work practices anytime anywhere, mainly where and when the results of the work are better achieved (Harmer & Pauleen, 2012; Vartiainen, 2008). Mobile knowledge workers usually do not have a dedicated desk to work at in their main workplace, and they also work less than 20 hours per week in a fixed place (Bosch-Sijtsema, Ruohomäki, & Vartiainen, 2010); most of their working time is performed alone and on the move. Working alone restricts the opportunity to strengthen relationships (Kietzmann et al., 2013); it increases the lack of support and also motivates the feeling of being “invisible” in the organization (Koroma, Hyrkkänen, & Vartiainen, 2014). As a result, these challenges can reflect directly in knowledge creation and sharing in organizations (Kietzmann et al., 2013).

In this study, knowledge creation and knowledge sharing are seen as collective learning processes embedded in work activities and practices undergoing transformations (Greeno & Engeström, 2014). Among practice-based approaches to learning (Gherardi, 2009; Miettinen, Samra-Fredericks & Yanow, 2009; Nicolini, 2012), activity theory and the theory of expansive learning (Engeström, 2015; Engeström & Sannino, 2010) offer a promising framework for our analysis. Mobile workers often face learning challenges for which there are no ready-made solutions available, having to engage in “learning what is not yet there” (Engeström, 2016).

Learning in the context of mobile work is complex (Lundin & Magnusson, 2003; Muukkonen et al., 2014) because there are fewer opportunities for socialization and informal learning with peers, as in cubicle chats, cafeteria discussions, and impromptu team meetings (Jarrahi & Thomson, 2017; Nelson, Jarrahi, & Thomson, 2017; Vartiainen et al., 2007).

A literature review reveals that studies of mobile workers do not focus on understanding their processes of knowledge creation and sharing; we identified only two studies dealing with this subject (Kietzmann et al., 2013; Lundin & Magnusson, 2003). Most of the research involving mobile workers is related to their acceptance and adoption of mobile technologies (Dal Fiore et al., 2014; Karanasios & Allen, 2014; Mazmanian, Orlikowski, & Yates, 2013; Pauleen et al., 2015; Stieglitz, Lattemann, & Brockmann, 2015). Considering this gap, the research question explored in this chapter is: how can expansive learning take place among mobile workers? Expansive learning is a type of learning identified and conceptualized in cultural-historical activity theory (CHAT) to explain qualitative changes in work practices over time (Engeström, 2015; 2016). Through the lens of this theory, the processes of knowledge creation and sharing among mobile workers may be better understood.

The chapter is organized into seven sections. The next section explores the main characteristics of mobile work and mobile workers, and presents a review of the literature on expansive learning. The third section describes the research method, and the fourth presents the research results. The fifth, sixth