The dynamics of the collective competencies among working groups:
The case of turnaround maintenance in a Brazilian petrochemical company

The competitive scenario in recent decades has imposed increasing levels of complexity and interdependence to companies, which try to respond to this challenge providing some organizational changes, such as collective arrangements. This article aims to understand the emerging collective competencies based on the mobilization of different working groups to make the turnaround maintenance (TM) possible, in a Brazilian petrochemical company. The turnaround maintenance is characterized as a large network of interdependent services, which requires advance planning of 30 months, occurring during 30 days and hosting a contingent of 6400 people from within the company in addition to outside contractors.

The theoretical basis for this study focuses on addressing the social competencies approach having as the main contributors American, French and Swedish authors. These authors analyze the collective competencies focused on sensemaking (Weick, 1993) and individual knowledge based on a common goal (Boreham, 2004; Frohm, 2001; Hansson, 2003; Sandberg, 1996, 2007; Le Boterf, 1997; Zarifian, 2001).

For this end we use the case study method (Yin, 1994) having as a basis four distinct and complementary research stages that show the evolution of the research itself. (1) The initial exploratory phase aimed to understand the collective competencies as a process issue, based on the following elements: sensemaking, shared understanding, action and scope. (2) The second phase analyzed the elements of collective competencies considering the results produced, identified as the macro level, based on the following elements: safety, quality, time and cost. (3) The descriptive relational phase aimed to analyze the relations of complementarity among the elements of the collective competencies, showing the relationships among the elements of the micro level, the macro level and the micro and macro levels. (4) Finally, the validation of the data was held in a meeting with the Steering Committee of the TM, in order to validate the research findings with those responsible for the event.

As a data collection instrument we use semi-structured interviews, focus groups, non-participant observation and secondary data. We also use the content analysis (Bardin, 1977) and Matrix Coding Nvivo (Flick, 2002) to analyze the data.

The research findings show that the notion of collective competencies can be understood from two perspectives that are both different and complementary at the same time- process and outcome views.

Regarding the process view, the collective competencies are seen as a dynamic capability based on the interaction among different working groups creating the mobilization of additional powers from the following elements, which constitute the collective competencies: sensemaking, shared understanding, action and scope.

Concerning the outcome view, the collective competencies are seen as the ability to generate results from the relationship among groups (within and outside the company) mobilizing resources and capabilities needed to achieve an effective arrest, based on a TM shared meaning and aspects related to safety, quality, time and costs.

These two perspectives of collective competencies are complementary, since the idea of process and outcome refers to a single event, the TM. In other words, in the event of turnaround maintenance in this Brazilian company, the shared understanding of the collective competencies involves the mobilization of the following elements: sensemaking, shared understanding, action and scope. This way we can make an effective TM achieving the expected results concerning to safety, quality, time and costs involved in this strategic event (TM).

References

Bardin, Laurence (1977). *Análise de conteúdo*. Lisboa, Edições 70.

Boreham, Nick (2004). A theory of collective competence: challenging the neo-liberal individualisation of performance at work. *British Journal of Educational Studies*, v. 52, n. 1, p. 5-17, mar.

Le Boterf, Guy. (1997). *Compétence et navigation professionnelle*. Paris, Éditions d´Organisation.

Flick, Uwe (2002). *Qualitative Sozialforschung*. Hamburg, Rowohlt Taschenbuch.

Frohm, Cecília (2002). *Collective competence in an interdisciplinary project context*. Sweden, UniTryck.

Frohm, Cecília (2003). *Collective competence in a project context*. Available at: <http://www.sses.se/public/events/euram/complete_tracks/knowledgebased_firm/frohm.pdf>.

Godoy, Arilda S. (1995). Introdução à pesquisa qualitativa e suas possibilidades. *Revista de Administração de Empresas*, v. 35, n. 2, p. 57-63.

Hansson, Henrik (2003). *Kolektiv kompetens*. Doctorate Thesis Summary. Götemborg University, Sweden. Available at: <http://www.viktoria.se/~henrik/summary.pdf>.

Sandberg, Jörgen. (1996). *Human competence at work*. Sweeden, Grafikerna I Kungälv, 1996.

Sandberg, Jörgen; Targama, Axel. (2007) *Managing understanding in organizations*. London, Sage Publications.

Weick, Karl (1993). The collapse of sensemaking in organization: the man gulch disaster. *Administrative Science Quarterly*, v. 38, n. 4, p. 628-652.

Yin, Robert K (1994). *Case study research: design and method*. London, Sage.

Zarifian, Phillip (2001). *Objectif competénce*. Paris, Liaisons.