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WORK ORGANIZATION IN TWO SUPPLY CHAIN STRUCTURES: CASE STUDIES IN BRAZIL'S AUTOMOTIVE INDUSTRY

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The last decade of the 20th century was characterized by a new wave of investments in Brazil's automotive industry, with the establishment of new factories and the modernization of existing ones. These investments led to the creation of new arrangements in the industrial supply chains, with the intensification of outsourcing and of long term relationships between automobile assembly companies and their respective suppliers.

This article proposes to compare the work organization forms (WOFs) adopted by two supply chains of the Brazilian automotive industry. The main company in the first chain is a truck manufacturer whose production system is structured into a modular consortium scheme. In this case, we examine the WOF adopted in the modular system as a whole, showing particular characteristics of two suppliers (multinational companies). The main company in the second chain is an engine assembly unit, with a relatively high level of outsourcing compared with the engine assembly plants located on Brazilian soil, but still responsible for the main assembly processes of the engines it produces. In the case of the latter supply chain, we examine the WOFs adopted by the assembler and by ten of its direct suppliers, some of them multinational and others national companies.

The information presented here was compiled from interviews with managers of the 14 production units involved. It is interesting to note that the two assembly plants were installed after the mid-90s and followed similar design principles, such as production sites located outside the traditional manufacturing areas, a high degree of outsourcing, modular or cell type layout, clean, safe and well-lighted work spaces, etc…

With regard to the multinational companies in the two supply chains, they can be stated to possess similar work organisation characteristics, i.e., production units organised into cells or mini-factories, multi-tasking and a team-working organisation but with limited autonomy, job rotation, a relatively high average number of training hours per year, few hierarchical levels, a relatively high level of formal education, a relatively low average employee age, employee involvement in the solution of daily problems or in improvement programmes, and the presence of many suppliers' workers at the main assembly plant.

The national suppliers considered in our survey all act in the engine supply chain and, although several of the above characteristics are applicable to some of them, they have resulted from recently implemented changes and are therefore not yet entirely consolidated.

The main differences between the two supply chains – in relation to WOFs – can be classified into two categories: (1) the relationships between the assemblers and their direct suppliers, and (2) the role of the labour force in the supply chain.

The main difference between the supply chains, considering the first category, is the need to negotiate production and organisation aspects with all the suppliers in the modular system simultaneously, seeking to reach collective agreements and the same (unified) work conditions. In the engine supply chain, on the other hand, the suppliers are (more) dissimilar from the assembler's point of view and these differences are explored to achieve high levels of performance in the assembly plant. In the latter case, the assembler exerts only an indirect influence on the suppliers' WOFs. As an initial hypothesis for the second aforementioned category of questions, we argued, firstly, that the WOF, being the most flexible component of the production system (or of the production organisation form), is designed to accommodate to the variability of the other elements and to provide a cohesively acting system. However, the more a supplier is locked into a position in the supply chain where technological capacity and flexibility are of secondary importance, the more likely it is for traditional and spurious WOFs to be implemented, with the resulting lower labour costs.