
Editorial: Coordinating competencies and knowledge in the auto industry

Guest Editor: Yannick Lung

This issue of *IJATM* presents some of the main conclusions of the CoCKEAS project supported by the European Commission [1]. This project [2] has been at the core of the third GERPISA international research programme 'Coordinating Competencies and Knowledge in Regional Automotive Systems' (2000–2002).

This project considered that, at the dawn of a new century, automobile firms again have to cope with major structural changes requiring them to reorganise their current production systems. This modification of the automobile industry's economic and social environment stems from three main factors:

- 1 Technological developments (specifically in microelectronics and ICT) in which reinforced innovation serves as a factor of competitive rivalry.
- 2 The competitive process, marked by the double dimension of the new internationalisation phase and featuring an increasing number of mergers – acquisitions and alliances between the three automobile poles (Europe, United States, Japan) on one hand [3,4], and a reinforced regionalisation of the automobile system on the other [5,6].
- 3 The institutional context, in reference to the relationships between the different actors in the automobile system, notably the governance compromise underlying the implementation of corporate strategies [7]. Greater shareholder power and institutional investors' increased influence on corporate executives' strategic decision-making are partial explanation for some of the changes in the industrial system, and more specifically for the trends towards an increased externalisation of activities.

To cope with these new technological, economic and institutional challenges, the organisational forms that had allowed the auto industry to develop over the past 100 years needed to be reconfigured. During the 20th century the automotive industry was a matrix for new productive models (Fordism, Sloanism, Toyotaism, etc.) that gave birth to many organisational innovations that would later spread to other sectors of economic activity [8]. Today, the deep-seated and rapid developments that have taken place within this sector underline the need for reactive forms of productive organisation within a permanent innovation regime in which new knowledge necessarily derives from the mobilisation and combination of diversified competencies.

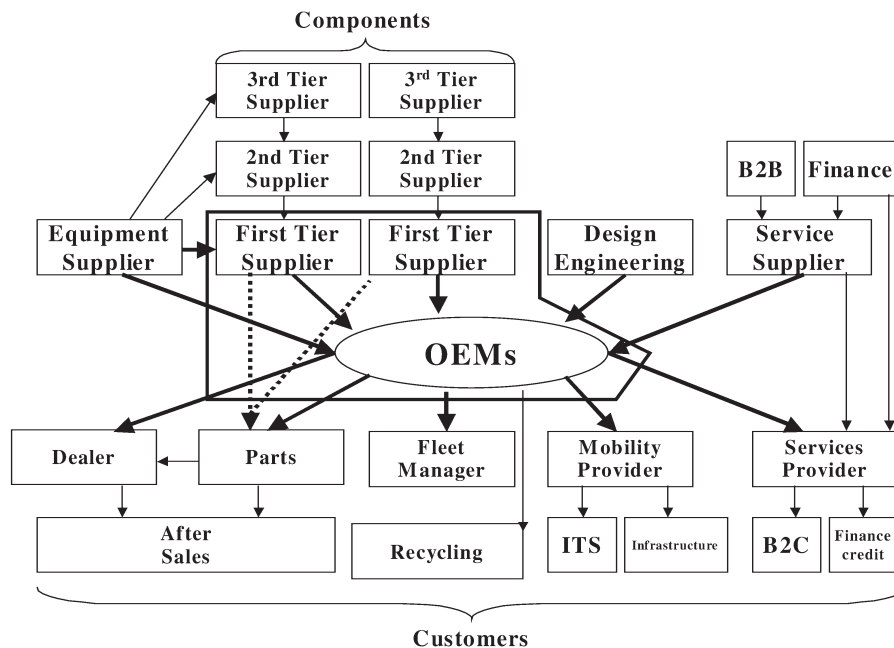
The analytical framework we are suggesting is an all-encompassing one, the idea being that the automotive industry should be analysed at the system level as a whole. This means that analysis should not only cover car makers but also components makers, who produce about 60% of a car's value. This is because the coordination of competencies and knowledge in design, manufacturing and assembly between car makers and their suppliers has become a critical issue for the automotive system. In addition, we should

also go beyond a purely manufacturing-oriented perspective focusing solely on tangible production and integrate all of the immaterial activities that make such a telling contribution to the dynamics of automobile production, including new car sales financing and services inferring the existence of new competencies to be mobilised and coordinated.

The dynamics of a given system are basically determined by the way its activities have been coordinated. Coordination can be organised according to three basic economic principles: the market; the firm (hierarchy); and cooperation. In a permanent innovation regime, cooperation tends to become the main method of automotive systems coordination. As such, analysis should no longer focus on the firms themselves (and particularly on car manufacturers) – instead, it should inspect the system's overall inter-firm relationships.

Respecting this methodological framework, the CoCKEAS research project studied ongoing structural changes in the European automotive system (Figure 1) by emphasising five major dimensions thereof, the results of four of these work packages being presented in this special issue of *IJTAM*, with more detailed case studies presented at the 11th GERPISA international colloquium (Paris, June 2003) [9].

Figure 1 The European automotive system



Comparing current changes in Europe with automobile industry developments in other parts of the world, Ulrich Jürgens discusses the distinctiveness of the European automotive system, as well as the competitiveness advantages and handicaps that are associated with it. Pål Næsje develops a specific analysis of the actor coalitions in hydrogen and fuel-cell development, Europe not being the leader in these new, greener technologies.

Yannick Lung analyses the impact of the structural changes in productive organisation on the geography of automobile production in Europe: expansion towards the countries of Central Europe and/or on a regional scale; and agglomeration/clustering dynamics. Ana Valéria Carneiro Dias and Mario Sergio Salerno's, and Flàvia Consoni and Ruy Quadros's papers focus on a specific issue: the international division of labour in product development and its impact on the Brazilian auto industry.

Giuseppe Volpato analyses the changing relationships between car makers (or Original Equipment Manufacturers [OEM]) and First Tier Suppliers (FTS), with the latter group having played an ever-greater role in designing and manufacturing motor vehicle subsystems. Coordination of OEM – FTS relationships, during both their design and production activity phases, is a key part of the ongoing transformations in the European automotive system. Some specific topics are discussed in two papers of this issue: by Christophe Midler and François Fourcade; and by David Urso.

Jean-Jacques Chanaron discusses the role of the other actors (lower-tier suppliers, engineering companies, distribution networks, etc.) that help to determine the European automotive system's economic performance. In her paper, Noémie Behr develops a specific analysis of distribution systems and their relationships with productive models.

In addition to these productive transformations, the CoCKEAS project included the analysis of the automotive industry's immaterial dimensions (and notably the relationship between the world of finance and automobile manufacturing) which paved the way for a new research agenda that could be particularly interesting in the light of the current debate on the financialisation of the world's economies. The main conclusions have been published in a special issue of *Competition and Change* [10].

References and notes

- 1 FP5, Project no.: SETN-1999-00140. CoCKEAS was a European thematic network coordinated by Y. Lung.
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- 3 Freyssenet, M., Shimizu, K. and Volpato, G. (Eds.) (2003) *Globalization or Regionalization of European Car Industry?* London, New York: Palgrave.
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- 6 Carrillo, J., Lung, Y. and van Tulder, R. (2004) *Cars, Carriers of Regionalism*, London, New York: Palgrave, forthcoming.
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- 8 Boyer, R. and Freyssenet, M. (2002) *The Productive Models. The Conditions of Profitability*, London and New York: Palgrave-Macmillan.
- 9 See the GERPISA website: www.gerpisa.univ-evry.fr
- 10 Froud, J., Johal, S. and Williams, K. (Eds.) (2002) 'The tyranny of finance? New agendas for auto research', special issue of *Competition & Change. The Journal of Global Business and Political Economy*, Vol. 6, No. 1.