
Editorial

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Biographical notes: Bernard Jullien is a Senior Researcher in Economics at the GREThA research center, attached to the Université Montesquieu-Bordeaux 4 (France). His research about car sector is centred upon the retailing and services questions. About this industry and others, his research is centred upon the politics of industry. He is, since July 2006, the Managing Director of the international network of automotive researchers GERPISA.

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This special issue of IJATM is based primarily on papers presented during the 13th International Colloquium of the GERPISA group held in Paris in June 2005. For this colloquium, the group broadened the focus of research presented beyond the traditional domain of the automobile industry in association with the research programme on European Socio-Economic Models of a Knowledge-based Society (ESEMK). This programme is investigating how the diversity of socio-economic models is evolving and impacting on the development of firms, industries and nations. The papers selected for this special issue were those that offer the most insight into these dynamics in the automobile industry. Nonetheless, the experience of bringing together research from different industries to compare with that conducted in the automobile industry raised two key issues:

- The industrial dynamics of the automobile industry relate to broad forces and innovations that are generally also having an important impact in other industries.
- The theoretical approaches favoured to illustrate these dynamics in the automobile industry could offer valuable insight for researchers in other industries. This has been attempted with the productive model developed by the GERPISA group, for example. The inverse is also true, leading us to call for greater integration of concepts developed in in-depth studies of other industries into the research on the automobile industry.

From this perspective, while the five papers published in this issue relate to general conceptual frameworks, some are based on managerial practices such as modularity (Fujimoto and Ge) and supply chain management (Belzowski et al.) and some are based on academic debates such as Cedillo-Campos et al.'s paper on relational intensity, Lu Zhang's paper on different regimes in the workplace and Miyake's paper on cell-based work assembly. In all papers, however, as is the tradition in the GERPISA group, a common goal is to remain focused both on the realities and on the specificities of the automobile sector and on the contexts in which the different firms are structuring and differentiating their practices.

The research work published in the papers of Fujimoto and Ge and of Belzowski et al. subsequently highlights a significant level of diversity in the manner in which firms adopt what tends to be commonly accepted as universal 'best practices'. This diversity can be traced back both to operational difficulties at firm level linked to their specific functional, organisational and, at times, cultural constraints and to conscious managerial decisions based on the firm's objectives for market differentiation. There is further evidence of the complexity and diversity to be found in the other papers dealing with labour relations in the Chinese automobile industry, the reorganisation of assembly processes in Japan and the organisational dynamics of the Coahuila automobile cluster in Mexico. These papers draw on theoretical frameworks to enrich our understanding of the underlying forces that generate the complexity of the concrete phenomena under observation.

The research findings presented address five key questions for the future of the automobile industry and they provide rich evidence of the fruitfulness of combining theory development with in-depth industry-linked empirical research. Such research will continue to be at the centre of the GERPISA approach to research on the automobile industry.

Fujimoto and Ge's paper represents an important contribution to our understanding of modularity, a phenomenon too often presented as a generally accepted practice of the automobile industry. Based on a clear preference for outsourcing in today's competitive environment, the authors examine in detail what determines the outsourcing and, more specifically, the transaction patterns that are adopted in the outsourcing practices of the Japanese auto industry. Using a taxonomy to represent different levels of outsourcing in the drawing of designs for auto parts, the authors clarify the conditions under which alternative patterns should be chosen. The richness of the authors' framework, which specifies the architectural attributes of auto parts allows them to highlight limitations of existing conceptual approaches such as those of asset specificity in transaction cost economics, of property rights and of relational skill. By distinguishing between the level of functional and structural modularity of auto parts, the study brings to light the specific measurement and adjustment costs that firms are attempting to address in opting for different forms of interfirm cooperation in the new product development process.

Their framework and related hypotheses are applied to the transactions concerning 33 auto parts between an automobile manufacturer and one of its first-tier suppliers. The authors recognise that the specificities of the design philosophy in the automobile industry pose difficulties for generalising their findings but their exploratory work offers rich material for other researchers to investigate how the architectural attributes of parts impact on concrete outsourcing decisions in all their complexity.

The Belzowski et al. paper also refers to issues of outsourcing and the organisational and managerial problems faced by managers. Noting that automobile manufacturers have repeatedly announced ambitions to meet cost reduction targets while simultaneously improving quality and time to market objectives, the authors examine how both manufacturers and suppliers address the problems that emerge from such conflicting goals. The authors seek to analyse two major Supply Chain Management (SCM) activities, manufacturer–supplier relations and global sourcing and refer back to prior research at the University of Michigan Transportation Research Institute (UMTRI) that distinguished between the ‘selection model’ and the ‘development model’. Despite the publicly stated desire on the part of automobile manufacturers to move to the latter model of a closer involvement of suppliers in the product development process, the authors find that the selection model is far from obsolete. A significant barrier to implementing the development model is an on-going lack of ability of all actors to define clearly what constitutes a ‘system’ to be supplied by suppliers and to clarify what is meant by the ‘strategic’ nature of certain components, modules and systems.

To arrive at their conclusions in relation to the concrete difficulties faced in relation to SCM, interviews were conducted with 29 executives from six major global manufacturers and ten top-tier global suppliers. The research highlights the hesitant manner in which the more traditional manufacturers such as General Motors, Ford and DaimlerChrysler address the move from ‘selection model’ to ‘development model’. Belzowski et al. note

“companies that fluctuate between the models can create confusion within the supply base as it becomes unclear to suppliers how they should manage the business relationship.”

Seven major on-going sources of risk and managerial difficulty emerge from the analysis of the executive interviews, and there is little reason to assume that all firms in the industry will address these in the same way. It is thus difficult to see the phenomenon of global sourcing as a force for convergence, and, on the contrary, it may be interpreted as a source of renewed diversity of management practices to be examined continually in on-going research of this kind.

A complementary paper by Cedillo-Campus et al. looks at the Coahuila automobile cluster in Mexico to examine how the dynamics of competitive advantage can be interpreted as “the ability to design, organise and manage global supply networks in a way that maximises performance”. Cedillo-Campus et al. recall the importance of departing from a static approach in favour of developing systemic and dynamic approaches that are more appropriate for understanding the relational intensity that is the basis for building long-term competitive advantage. The authors refer to the opposition between the ‘selection model’ and the ‘development model’ and develop an original analytical framework based on the work of Gereffi et al. which they apply to the dynamic configuration to be found in the Coahuila automobile cluster.

They conclude that two types of clusters coexist in Mexico, which they term the 'survival cluster' and the 'transnational hubspoke cluster'. The Coahuila cluster is found to constitute a hybrid version and the authors find that, although relations between manufacturers and first-tier suppliers have evolved, "second- and third-tier suppliers find themselves cut out and lack the organised foundations offered by institutions". Their analytical framework clarifies the necessary conditions for clusters to develop from the first to the second type, in addition to explaining why this distinction has emerged and what will permit local actors to attain the level of trust from manufacturers, which is necessary if they are to become part of the second type of cluster.

The final two contributions are centred on the changes underway in the organisational forms implemented in the automobile industry in two countries. The first examines the response of the Japanese auto industry to the growth in demand variation and the other looks at changing labour politics in China's auto industry.

Miyake's paper discusses the attempts made by manufacturers to improve their reactivity by opting for more human-centred production systems such as the 'cell production system' (*seu seisan houshiki*) first introduced in Japan by the mid-1990s. The limits of the conveyor line production system are recalled, in particular its lack of flexibility. Coupled with the need to render factory work more attractive, the growing potential for demand fluctuation and product changes in today's markets has led an increasing number of Japanese firms to revisit their conveyor line production systems. In the auto industry, particularly, the potential for greater agility has driven manufacturers to embrace cell production systems.

Miyake recalls that this system represents

"a production innovation pattern that has evolved from the synthesis of production system design and management approaches inherited from a set of preceding experiences and propositions."

These include the 'Toyota Production System' and Swedish experiences conceived to foster a more 'anthropocentric' production system. The author reviews the theoretical literature relating to the noteworthy influences on cell production systems and analyses their main characteristics, in particular in relation to their potential to reinforce the individual skills of the workforce. Nevertheless, the author does not consider cell production systems a managerial panacea as alternatives exist and all industries are not subject to the same conditions that have favoured its development.

The final paper in this special edition deals with the issue of changing labour politics in China's automobile industry. The paper of Lu Zhang is based on an empirical research project on the organisation of work and work relations in China's automobile industry. Based on a survey conducted in six production sites, four of which were joint ventures with Western firms and two of which were state-owned enterprises, the author's analysis presents a variety of configurations. These are positioned by the author in relation to a dichotomy of systems of labour relations, which has been discussed in the literature on China. Thus, O'Learly in his research on small- and medium-sized coalmining firms in the south-east and considered the structure of the work relationship as 'despotic', while a more recent paper of China based on two joint venture models in the north of China classified the predominant model of labour control as a 'hegemonic regime'.

Lu Zhang shows that different hybrid configurations emerge due to different approaches pursued by Chinese manufacturers as they seek to match the performance of their western counterparts. To support the necessary social compromises, the author

insists on the importance of enterprise unions and party factory committees and analyses the role that local and centralised government intervention plays in relation to industrial development and its consequences for workers. The analysis shows the ambiguity of the status quo and the fragility of current configurations of workforce relationships at every level. While the author does not seek to predict what the future holds, the work presented highlights the elements for consideration in further research of this type.

We are very pleased to present in the five papers of this special edition the richness and diversity of the research conducted over the last years in the GERPISA group. Our wish is that the research tradition based in in-depth empirical studies of sectoral and geographic specificities is adopted by researchers beyond the automobile industry to generate more synergies and enrich our understanding of the realities of industrial dynamics and complexities of today's managerial challenges.