
Editorial

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Biographical notes: Andrew Graves is a Professor of Technology Management at the University of Bath, UK, and directs research into lean manufacturing and agile production. He is a Mechanical Engineer and Political Scientist and began his industrial career as a Trainee Manager with the Rootes Group in 1966. At the Science Policy Research Unit the University of Sussex, he undertook research with MIT's International Motor Vehicle Programme (IMVP) on R&D and technology issues and subsequently became the European Programme Director to the programme.

Gareth Stone joined the School of Management of the University of Bath, UK, in 2001 after gaining a broad industrial background in the Aerospace industry. He is involved with the European Commission-funded Intelligent Logistics for Innovative Product Technologies (ILIPT) automotive programme. He has lectured in Operations Management at Southampton Business School and has recently been involved with the three-year aerospace research programme UK Lean Aerospace Initiative (UKLAI), which is partnered with MIT and focused on the implementation of lean processes within the UK aerospace industry.

Joe Miemczyk is an Associate Professor in Operations and Supply Chain Management at Audencia School of Management, Nantes in France. After working in the automotive industry within the UK supply base, he started his academic career in the 3DayCar programme at the University of Bath. From there he became theme leader on the European ILIPT project. Research interests span supply chain management and corporate social responsibility (reverse logistics, innovation in sustainable technologies). He has published widely in the area of automotive logistics and strategy, and has presented at a number of conferences in operations management, logistics, environmental management and the automotive industry.

We begin this special issue by asking the questions that we sought to answer through the call for papers: How must the world auto industry react (to the changes that are likely to occur in world automotive supply network strategy and structure)? And, what systems or processes need to be implemented to ensure that OEMs and suppliers maintain a viable business model for the future? To support this, we encouraged researchers to propose ideas based on the implementation of what we termed 'promising practice' over the next 10 to 20 years in the area of integration of supply networks. We have purposefully kept the net rather wide regarding contributions ranging from traditional car industry research to more tangential ideas that could help the industry overcome future challenges.

This special issue is a collection of 6 papers, with a European flavour but including a paper from China. The papers can be grouped into two themes (1) strategising (2) tools for improving integration.

In our first paper, Lewis and Howard of the University of Bath argue that global automotive markets are challenging the way that vehicle manufacturers and their suppliers conceptualise value creation. They describe complex 'blends' of services and products that are becoming an increasingly common basis for revenue generation. They present two cases from opposite ends of the automotive value chain: a vehicle fleet management service and machine tool manufacturer, as a mechanism for exploring the drivers towards, and underlying nature of the process of, 'servitisation'. They conclude by emphasising the importance of understanding general servitisation trajectories and the issues associated with transition from one business form to another in terms of corporate planning, provider and purchaser incentives, and the dynamics of general servitisation across global markets.

Müller of the Berlin School of Economics revisits some iconic cases in automotive production strategy to identify innovative forms of management; their strengths and their weaknesses. He compares and contrasts a number of cases which appear to smash the mould of conventional wisdom in automotive management and to questions the validity of viewing outsourcing as a *de facto* success criteria. He goes on to explore supplier relationships as a critical success factor in complicated business environments, and concludes that supplier relationships are more important because development potential as a supplier may count for more in the long-term than low cost alone.

Parry and Roehrich of the University of Bath suggest that automotive companies faced with decreased product lifecycles and reduced cost of capital, can no longer afford the capital outlay for new facilities which may become under-utilised as processes improve. They agree that outsourcing production capacity can remove this uncertainty but note that automotive companies have to deploy the resources and expertise of the best-in-class provider and need to reduce their functions to a handful of core activities. They suggest that over reliance on outsourcing brings with it a risk that companies may become 'hollow', lacking a core deliverable. They take the position that within the next couple of years, companies in the automotive sector will further outsource activities in order to free up investment capital and provide a guiding framework for practitioners.

Lin of Kaohsiung University of Applied Sciences tracks the development of horizontal integration strategies, requiring a combination of mergers, acquisitions, and strategic alliances. The investigative research provides an overview of the major automakers' technological and strategic trends, after examining the impact of integration strategy on organisational innovation and growth. Longitudinal data is utilised and regression analyses reveals that although the implementation of strategic mergers and acquisitions may be beneficial to market share capture, it may not support or favour new

technology development and innovation. Further, the negative effect of merger on both innovation and growth also echoes the prospect of failure in takeovers. The author suggests strategic alliance has the opposite effect on innovation and a positive effect on growth and points to the necessity for top managers to put greater emphasis on organisational innovation.

Brauer of 4flow AG Berlin and Backholer of the University of Bath have worked collaboratively to illuminate a holistic view of the current automotive supply networks; transport volumes and distances, fragmentation of material flows, rising freight costs and new environmental regulations. They report on findings from expert interviews and argue the future competitiveness of automotive supply companies requires a rapid alignment of transport networks. They describe a procedural model for the continuous adjustment of transport networks and offer software tool for supporting logistics planning. They conclude by emphasising the value of generating transparency in transportation processes and support the concept of establishing a continuous planning procedure.

The final paper in this special issue comprises an application of knowledge management concepts to the automotive supply chain, in particular where knowledge is distributed across many firms. Professor Smirnov and his team at the St. Petersburg Institute for Informatics and Automation of the RAS, in Russia, outline how these concepts could be applied to solve some of the current and likely future problems of managing supply chains in this complex and dynamic industry, especially where real time decision making is required such as in the build to order environment. The authors describe their methodology for modelling such supply chain situations with an application case in transportation logistics.

To conclude, we hope that this special issue provides a coherent review of cutting-edge thinking in the area of supply network integration in the automotive industry. Of course, this is our selection of 'promising practices. From the process of collecting together the contributions for this special issue we are certainly aware that there are many other opportunities for the automotive industry to find and implement new ways of adapting to change. But if at least some of these ideas can be taken up we believe there is significant potential for those early adopters to gain an advantage in the car industry's rapidly changing competitive landscape.