
Book Review

Reviewed by The IJATM Editorial Staff

Email: giuseppe.giulio.calabrese@ircres.cnr.it

The Automobile Revolution: Towards a New Electro-Mobility Paradigm
by: Danielle Attias (Ed.)
Published 2017
by Springer International Publishing
Gewerbestrasse 11, 6330 Cham, Switzerland, 148pp
ISBN: 978-3-319-45838-0

The book, edited by Danielle Attias, examines the changes resulting from the electromobility revolution in the traditional automotive industry. It brings together transdisciplinary experts to provide insights in this shift towards electromobility. The ambition of the book is to analyse the new direction vehicular technologies could take and the associated challenges for the classical OEM and their rather static business models. This book discusses electromobility innovation in its multiple dimensions, using different analytical frames from strategic management, public policy analyses and technical-economic evaluations.

More precisely, the book under review includes three part and ten chapters. The first part, made of three chapters, deals with the emergence of the phenomenon. Danielle Attias, recaps the early drivers of the change towards electromobility in the current economic and political contexts. Guy Fournier, in the following chapter, presents and analyses the transformation of the value chain and the new value proposition of EVs. He shows that electromobility is changing profoundly the traditional organisation of the industry. To conclude this first part, Danielle Attias and Sylvie Mira-Bonnardel describe how public policies, internationally, nationally and locally can help and foster the development of the electromobility ecosystem.

In the second part of the book, authors analyse the social dimensions of electromobility. First, Danielle Attias and Sylvie Mira-Bonnardel analyse how car manufacturers have to reorganise the conception of the car to include new partners in the production process. This new actors are IT providers, data management service providers... In order to make their point, authors assess some of the most up-to-date cases in the automotive industry and explain clearly what are the challenges ahead for OEMs. In the following chapter, Patrice Geoffron analyses the emergence of a global new environment for urban mobility purposes, the smart city concept. In this chapter, the author makes a clear effort to define the origins, the state of art and the most promising ways of research about this new concept. In the last chapter, Danielle Attias investigates the issues of autonomous cars and explains in what conditions this innovation, still in its infancy, could turn into major disruptive innovation. This chapter offers a clear and synthetic approach to the autonomous car challenge and provides interesting food for thought.

The last part of the book is made of the two last – but not least – contributions. These two chapters aim at providing tools to address the remaining technical challenges of electromobility: battery recovery constraints and with vehicle to grids (VtoX) issues. First, Hakim Idjis and Pascal da Costa provide a technical-economic frame to evaluate the costs and benefits of battery recovery options for OEMs. Authors analyse two recovery options: recycling or repurposing for reuse in second life applications. Finally, Yannick Perez and Marc Petit present and use a modular frame to define an ideal technical cooperation between electrical grids and OEMS, allowing an efficient organisation of Vehicle to Grid connections to the electrical networks.

After the reading of the ten chapters, two conclusions can be drawn. Danielle Attias' book is interesting and attempts to organise, sum-up and assess burgeoning literature both in the management sciences, in economics and in engineering science. In this respect, the book covers a large part of the phenomenon with interesting analyses of public policies, business models, social dynamics and technical issues. As such, it offers anyone interested in electromobility a useful roadmap for future developments.

The second conclusion is that a deeper understanding of electromobility calls for complementary works in almost all of the topics covered by the book. More studies are needed to fully understand all of the meshed interplay at stake with the electromobility revolution, and all the authors of this book seems to be aware of this point.

So is the Attias book an interesting one? I will define an interesting book as a book that gives the reader the willingness to investigate more the subject. Then, this book is very interesting.