

Innovation in the East-Asian Automotive Industry

Special Issue Technovation

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Deadline for submissions: November 30, 2015

From Korean and Japanese fuel cell cars to Chinese 'frugal innovations' adapted to emerging markets - is the focus of automotive innovation shifting to East Asia?

In late 2014, Toyota and Hyundai compete in launching the first mass-produced fuel-cell vehicles, featuring what many experts assume to become a leading new technology in future mobility (Nikkei Asian Review 2014). Korean and Japanese makers of lithium-ion batteries dominate the world's market (Lowe et al., 2010), as do Chinese suppliers of magnets and rare earths. China is expected to be a major lead market for new drivetrain technologies and Chinese automakers launch an increasing variety of new hybrid and electric models each year. Chinese carmakers may also use new modularized drivetrain technologies to 'leapfrog' past Western and Japanese incumbents.

Moreover, East Asia is increasingly seen as testing ground for "frugal innovations" – developing lean, low-spec products to occupy emerging market niches (Economist 2010, 2012). Emerging market carmakers from Korea, India or China might have an advantage vis-à-vis their Western competitors to bring 'good enough' products quickly to their domestic and neighboring markets (Leibowitz & Roth 2012), and Western firms like GM have started using Chinese approaches to quick commercialization and implementing market feedback into the next development cycles. For components, Chinese firms like Longxin have invented specific part development practices of "localized modularization" - broadly specified, supplier driven part development - to overtake competitors (Brown & Hagel 2005).

The Special Issue sets out to explore different facets of innovativeness in the East Asian automotive industry. We are specifically keen to discuss the role of innovation in recent developments in East Asia and how the innovative process is shaped by local institutional, cultural and organizational factors.

The questions we want to address in this Special Issue include, but are not limited to:

- Frugal Innovation: How do Asian engineers "simplify and strip out" products to achieve cost-competitiveness in their home base and other emerging markets? How do Western multinationals adapt their products? What process and business model innovations can we observe in the East Asian automotive sector?

- What are the institutional factors that enable radical innovations and leapfrogging in East Asia? E.g. what is the role of domestic consumers, governments and regulations, or home country knowledge sources?
- How does the internationalization of technology sourcing affect East Asian automotive firms and automotive suppliers (e.g. Chinese automaker Qoros or component purchasing in East Asia for the BMW i3 model)?
- Which organizational processes account for the success of firms like Hyundai and Toyota in bringing radical innovation to the mass-production stage? How do they combine the paradox of continuous improvement and “technological leaps” (see also Osonono, Shimizu & Takeuchi 2008)?
- Are Asian carmakers such as Hyundai (Korea) and Geely or SAIC (China) better equipped to design cars for emerging market consumers? How can cost-advantages in production be combined with innovative product development?
- How do Asian carmakers globalize their product development activities to create innovation for their local consumers?
- What is the role of supplier networks and business groups (i. e., Keiretsu, Chaebol) in the innovation process?
- What patterns of supplier development strategies do we see by East Asian carmakers and to what extent do they transfer their supplier development strategies to other regions?
- How do carmakers and suppliers from the emerging countries in East Asia deal with the increasing need to integrate diverse technological fields such as mechanics, electronics and software in new car developments? Are methods different than in the west?
- How do automotive firms who invest in Chinese production and R&D units deal with problems of knowledge transfer and the danger of knowledge dispersion?
- How do national and micro (organization level) innovation systems interact in East Asia in the introduction of new technologies such as electric vehicles? What are the local challenges of standard setting in the automotive industry and how do they affect technology diffusion?
- How can we judge the success of infant industry policies towards automotive firms in East Asia and what does this mean for carmakers in dynamic markets such as China?
- How are new service industries created and coordinated around new vehicle technologies? What is the role of innovative start-ups and the SME sector in Asia?
- Values: Do certain social pre-conditions support innovativeness? Do informal institutions and informal social networks play an important role in the automotive industry?

Instructions for submission:

- The submission website is located at: <http://ees.elsevier.com/technovation/default.asp>
- Deadline for submission of the full paper via the Technovation submission system is **November 30, 2015**
- Make sure to select “**SI: East-Asian Automotive**” when you reach the “Article Type” step in the submission process, so that the link to the Special Issue is established.
- Enquiries related to journal fit or content can be sent to Roman Bartnik (roman.bartnik@uni-due.de), who will coordinate a response among the guest editors. If you would like to ask for feedback on the fit of a paper you presented at the June workshop before submitting formally, please tell us what points you revised since the workshop based on the feedback there.

- For technical assistance, if you experience any problems submitting your paper online, please contact <http://www.journals.elsevier.com/technovation/>, describing the exact problem you experience. (Please include in your email the title of the Special Issue, the title of the Journal and the names of the Guest Editors)
- Papers will be subject to the Technovation double-blind peer-review process. A guide for authors, sample copies and other relevant information for submitting papers are available on the Author Guidelines page.
- Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere

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