CALL FOR PAPERS

Innovation in the
East-Asian Automotive Industry

International Scientific Workshop
&
Special Issue Technovation
The International Journal of Technological Innovation,
Entrepreneurship and Technology Management

Keynote speech by Prof. Takahiro Fujimoto

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Workshop: June 19/20, 2015 (Friday-Saturday)
Building SG, Room 183
Geibelstr. 41, 47057 Duisburg
University of Duisburg-Essen, Germany

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Automotive Innovation: Shifting East?

For decades, Western automotive firms occupied a leading global position in innovative and often revolutionary automotive inventions. For example, Belgian engineer Lenoir invented the internal combustion engine in 1858, followed by the invention of the four-stroke engine by Otto, which was patented in 1877 and subsequently further developed by Benz. Shortly after, in 1885, Daimler and Maybach developed the first petrol engine, soon followed by the manufacturing of the first automobile. Other path-breaking inventions of this era are the spark plug by Robert Bosch (1901), and the introduction of the first moving assembly line by Ford (1913), starting the age of automotive mass production.

Today, the epicenter of radical innovation seems to shift more and more towards 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 technology in future mobility (Nikkei Asian Review 2014). Korean and Japanese makers of lithium-ion batteries dominate the world 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 also use new modularized drivetrain technologies to ‘leapfrog’ past Western and Japanese incumbents.

Moreover, East Asia is increasingly seen as a testing ground for “frugal innovations” – i.e., the development of lean, low-spec products for emerging markets (Economist 2010, 2012). 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). For example, Chinese firms like Longxin have used part development practices of “localized modularization” - broadly specified, supplier driven part development - to overtake competitors (Brown & Hagel 2005).

The workshop 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 workshop 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? Which approaches do Western firms adapt in these markets? 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 these 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?

Workshop Format and Submission Process

The two-day workshop aims to generate insights for the automotive industries and for industry managers. A keynote speech on the central theme will be given by guest editor Prof. T. Fujimoto (Tokyo University). For the workshop, we invite a maximum of about 30 participants based on an extended abstract to promote an open exchange of ideas, discussion, and opportunities for feedback. Please see below for an overview of the submission deadlines.

For the Technovation Special Issue, papers will be selected among the top submissions. Papers selected for Technovation are also expected to add value to the theory and practice of innovation and technology management, consistent with the aims and objectives of the journal. In addition, there is scope to publish papers in Technovation which build on the outcomes and recommendations of the Workshop. These papers might be co-authored by Workshop participants. Final papers should be submitted within 2 months after the workshop via the journal publishing system in order to be refereed in the usual way. Authors will be informed during or shortly after the Workshop.

Submission Guidelines

In order to be considered for participation, please submit either full papers or an extended abstract (1000 to max. 2000 words, including references) for research currently in progress.

All contributions should be submitted to the workshop secretariat: Birgit Geith, Email: birgit.geith@uni-due.de. For any questions on paper topics, please do not hesitate to contact Dr. Roman Bartnik at roman.bartnik@uni-due.de.
Important Dates

Workshop
Extended abstract submission: 15 February 2015
Acceptance notification: 15 March 2015
Full paper submission: 31 May 2015
Workshop: 19-20 June 2015

Special Issue
Revised paper submission: 30 August 2015

References


Other Relevant Literature


CONTACT

All contributions should be submitted to the workshop secretariat:

Birgit Geith, Email: birgit.geith@uni-due.de

HOW TO GET THERE

By Car
1. Starting Point Autobahn (A3, A40): Exit Duisburg-Kaiserberg. Turn left onto Carl-Benz-Straße in the direction of Zentrum/Universität. Follow the road for 1.5 km (now called Forsthausweg) onto crossroad with traffic light. Straight onto Holteistraße. Turn right onto Gneisenaustraße. Turn left in the end onto Geibelstraße. After 100 m parking lot on the right behind the SG Building, No. 41.
2. Starting Point Duisburg City: Via Mülheimer Straße in the direction of Zoo/Universität (about 2 km eastbound). Turn right onto Lotharstraße. Turn right onto Holteistraße at the first traffic light and continue as described above (1: Gneisenaustraße, Geibelstraße).
   Access Geibelstraße only via Holteistraße/Gneisenaustraße.

Public Transport
1. Arriving at Duisburg Main Station: Leave the platform downstairs via stairs or elevator in the middle of the platform. Leave the main station through the exit “Ostausgang” where Taxis are waiting to take you to Geibelstr. 41, 47057 Duisburg or walk past the taxis to bus stop Haupth bahnhof Ostausgang, located at Neudorfer Straße. Take Bus 924 (destination Neudorf) or 926 (destination Uni-Nord, 7 stops). Get off at Uni-Nord/Lotharstraße, turn right onto Geibelstraße and proceed to No. 41, SG Building.
2. Arriving by Tram 901: Get off at Schweizer Straße, turn right onto Sternbuschweg, turn left onto Geibelstraße and proceed to No. 41, SG Building.

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