Prospects for Smart Mobility in India: Chances & Challenges

Talk at the Symposium "Smart Mobility"
(India Days Hannover)

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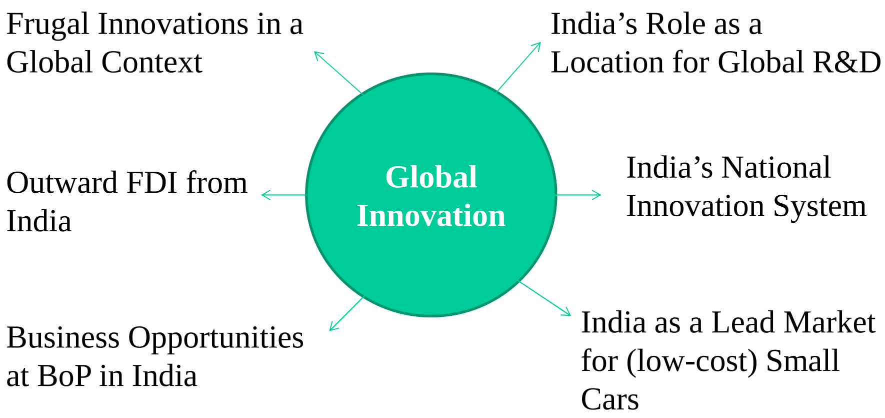
Research Areas:

- Fuzzy Front-end of Innovation
- Intellectual Property Rights
- Open Innovation
- Innovation in SMEs
- Globalization of Innovation
- Mobile Commerce

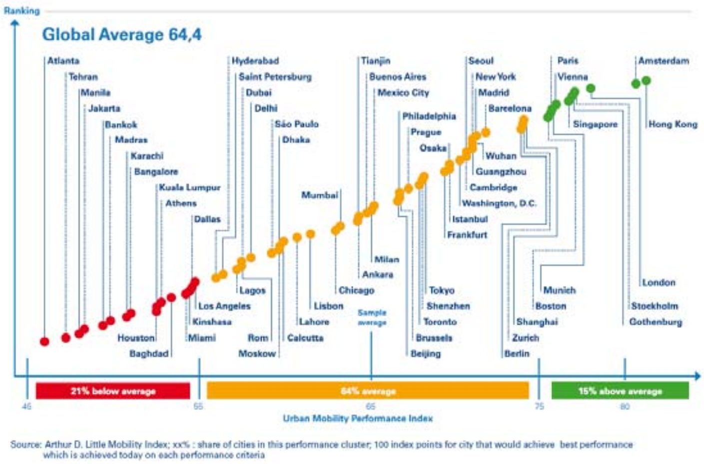
Research Project "Global Innovation"

Innovation management related research with special focus on chances & challenges in India

Research Project Global Innovation
Focus of our studies…



A.D. Little's "Urban Mobility Index"



Source: A.D. Little (2009): "No. 1: Future of Urban Mobility"

Understanding the Challenge

- Immense (economic & social) opportunity costs in India due to the lack of a sufficiently extensive &“smart” transport system
  - Inter-regional: Travelling in a vast country consumes immense time (slow trains, often single track; technically outdated buses, bad roads in the hinterland..)
  - Intra-regional / City travel: Traffic jams during rush hours, air pollution
- Long & cumbersome journeys on a regular basis negatively affect productivity
  - In the commercial vehicle segment the reason for developing a vehicle like the “Tata Ace”
- And the challenge keeps on growing (general population, working age population, increasing economic activity)

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Smart Mobility in the Indian Context

- “Smart Mobility” in the context of developed countries may mean intelligent, ICT-based solutions (telematics) that enable:
  - Ease of individual transport (in megacities) while attending to environmental concerns
  - Mobile Office Applications (work flow management)
- In India’s context the term has to be redefined to include all modes of transport that enable:
  - (Ease of) Individual transport in rural and semi-urban areas as well as in urban megacities while attending to environmental concerns
  - Creation of sustainable mass transportation systems as well as greater penetration of environmental-friendly (motor) vehicles for personal use
  - The distances to be covered in India may be large, both intra-regional and inter-regional

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India: Now & Then?
The growing need for (smart) mobility

Indicator	1947	2011
Population (1951)	361 million	1.21 billion
Life expectancy at birth (in years) (1951-2007)	32	66 (M) / 71 (F)
Literacy	12%	74%
Per capita income (Current prices; RBI & IMF data)	Rs. 255	Rs. 70,654
Per capita income (Current prices, USD) (1991-2011)	$ 334	$ 1,389
Universities	20	544
Colleges	~ 500	31,324

India is a "young" and aspiring nation on the path to economic development and urbanization

Mobility is its key requirement in the time to come, as India prepares to become the third largest economy of the world by 2050.

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Status of Economic Development in India
Chances and Challenges for Corporate Houses

Availability of Assets in Indian Households			
(Households in 2001=192 million; 2011 = 247 million)	**2001**	**2011**	**2011 (in million)**
Access to banking services	36%	59%	145
Radio/Transistor	35%	20%	49
Television sets	31%	47%	117
Computer/Laptop	n.a.	10%	25
Access to the Internet	n.a.	3%	7
Telephone (Landline/Mobile)	9%	63%	156
4-wheeler (Car/Jeep/Van)	3%	5%	11
2-Wheeler (Scooter/Motorcycle/Moped)	9%	21%	52
Bicycle	44%	45%	111
None of the above (in %)	34.5%	17.8%	44

Based on the provisional results of the Census 2011. Rounded to the nearest full-digit.

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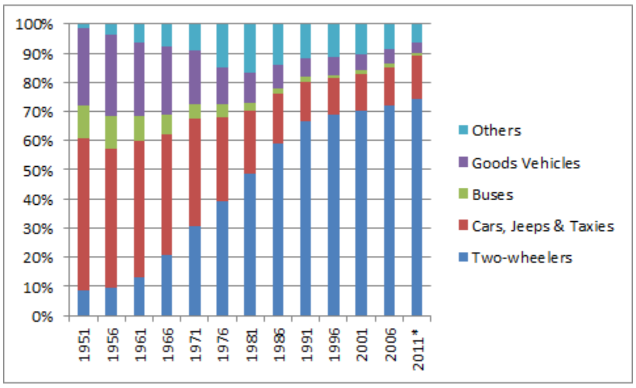
Share of Different Vehicle Segments in India

Two-wheelers are the most present medium



Source: Tiwari and Herstatt (2012); calculated on the basis of SIAM data. 2011* estimated figure.

The total number of all registered motor vehicles in India increased from 0.3 million in 1951 to an estimated 107.8 million in 2011

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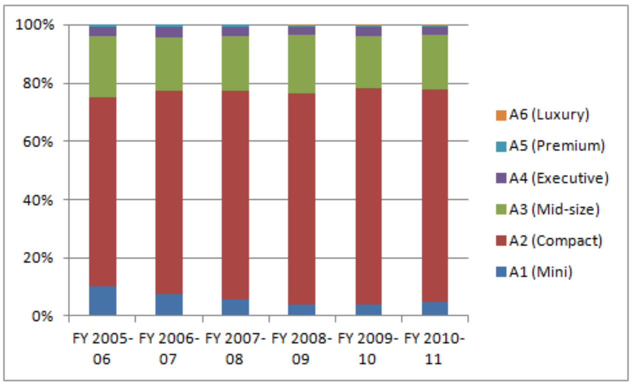
India’s Passenger Car Market

Small cars (A1+A2) rule the roost



As of now, German carmakers have largely ignored India’s “Small Car” segment

(*Exception: VW Polo and Skoda Fabia*)

Close to 80% of all cars sold in India are small cars

(broadly speaking: length up to 4,000 mm and engine displacement not exceeding 1,500 cc)

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Key Implications…

- India faces an enormous challenge for ensuring smart mobility.
- The other side of the coin is the enormous chance, probably not present anywhere else in the world, a one-time opportunity.
- The mobility sector – in all facets and variations – is a sunrise industry and provides for excellent growth opportunities.
- Solutions developed for India could be ideally used in other developing countries at a later stage.
- The environmental issues concern all and have a global impact.

„Das Land der Ideen trifft das Land der Chancen“

Dr. Jürgen Hambrecht, ehemaliger Vorsitzender des Asien-Pazifik-Ausschusses der Deutschen Wirtschaft

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Thank you for your kind attention

ध्यानपूर्वक सुनने के लिये धन्यवाद

Vielen Dank für Ihre Aufmerksamkeit

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