

# Contents

<b>1</b>	<b>Setting the Scene</b>	<b>1</b>
1.1	Research Objectives & Contribution	7
1.2	Research Design	9
1.3	Structure of the Study	12
	References	14
<b>2</b>	<b>Developing Countries and Innovation</b>	<b>19</b>
2.1	Economic Indicators	22
2.2	Technological Indicators	23
2.2.1	Investments in Research and Development	23
2.2.2	Innovation Output from Developing Economies	25
2.3	Need for a Different Innovation Approach	27
2.4	Concept of Frugal Innovations	29
2.4.1	Conceptual Context of Frugal Innovations	29
2.4.2	Role of Open Global Innovation Networks	32
	References	35
<b>3</b>	<b>Exploring Opportunities for Global Innovation</b>	<b>41</b>
3.1	Lead Markets as Drivers of Global Innovation	46
3.2	Dominant Logic & Research Gap	48
3.2.1	Insistence on High Per-Capita Income	50
3.2.2	Customer Sophistication	53
	References	55
<b>4</b>	<b>Growing Demand for Affordable Solutions</b>	<b>61</b>
4.1	A Brief Socio-Economic Profile of India	62
4.1.1	Innovations in India	64
4.1.2	Export Growth for “Made in India” Products	65
4.1.3	Experiences in Dealing with Resource Constraints	66

4.2	Case Studies to Generate Preliminary Propositions . . . . .	67
4.2.1	Electronic Voting Machines . . . . .	67
4.2.2	Small Commercial Vehicle: Tata Ace . . . . .	71
4.2.3	Water Purifier: Tata Swach . . . . .	73
4.2.4	Solar-Powered ATMs: Vortex . . . . .	74
4.2.5	Battery-Powered Refrigerator: ChotuKool . . . . .	76
4.2.6	Assessment of Product Commonalities . . . . .	78
	References . . . . .	82
<b>5</b>	<b>Need for a Rethink . . . . .</b>	<b>89</b>
5.1	Factors from the Existing Model . . . . .	89
5.1.1	Anticipatory Factor Costs . . . . .	89
5.1.2	Per-Capita Income . . . . .	90
5.1.3	Anticipatory Needs . . . . .	91
5.1.4	Anticipatory Availability of Complementary Goods . . . . .	91
5.2	Sensitivity to Global Problems and Needs . . . . .	92
5.2.1	Similarity of Local Demand to Foreign Market Conditions . . . . .	92
5.2.2	Uncertainty Reduction . . . . .	93
5.2.3	Structure and Sophistication of Demand . . . . .	93
5.2.4	Proprietary Technologies . . . . .	94
5.2.5	Multinational Firms and Mobile Users . . . . .	94
5.3	Technological Capabilities as a New Factor . . . . .	94
5.4	Formulation of Preliminary Propositions . . . . .	95
5.5	Propositions Related to Research Question No. 1 . . . . .	95
5.6	Propositions Related to Research Question No. 2 . . . . .	96
5.7	Propositions Related to Research Question No. 3 . . . . .	97
	References . . . . .	97
<b>6</b>	<b>Investigating India's Small Car Industry . . . . .</b>	<b>99</b>
6.1	Case Study Methodology . . . . .	100
6.2	Details of Interviews & Interview Partners . . . . .	101
6.2.1	Automobile Manufacturers . . . . .	102
6.2.2	Auto Component Suppliers . . . . .	103
	References . . . . .	103
<b>7</b>	<b>Profile of India's Automobile Industry . . . . .</b>	<b>105</b>
7.1	Historical Perspective . . . . .	106
7.1.1	Protectionist Phase (1947–1965) . . . . .	108
7.1.2	Domestic Economic Problems (1966–1979) . . . . .	108
7.1.3	Third Phase (1980–1990) . . . . .	109
7.1.4	Phase of Economic Liberalization (Post-1991) . . . . .	110
7.2	Current Status . . . . .	110
7.2.1	Domestic Sales . . . . .	114
7.2.2	Exports of Automobile Products . . . . .	117
7.3	Future Prospects . . . . .	118
7.4	Capital Investment in the Automobile Industry . . . . .	121

7.5	R&D and Innovation Capabilities . . . . .	122
7.5.1	Collaborative R&D in Open Domestic Innovation Networks . . . . .	126
7.5.2	Access to Technology in Open Global Innovation Networks . . . . .	127
7.6	Contribution of the Auto Components Industry . . . . .	129
	References . . . . .	137
<b>8</b>	<b>Role of Small Cars in India's Passenger Car Segment . . . . .</b>	<b>143</b>
8.1	Domestic Market . . . . .	145
8.2	Export Market . . . . .	146
8.3	Selected Case Studies of Small Car Manufacturers in India . . . . .	148
8.3.1	Tata Motors Limited . . . . .	148
8.3.2	Maruti Suzuki Limited . . . . .	160
8.3.3	Hyundai Motor India Limited . . . . .	166
8.4	India's Small Car Sector in International Comparison . . . . .	171
8.4.1	China's Potential as a Lead Market for Small Cars . . . . .	173
8.4.2	Brazil's Potential as a Lead market for Small Cars . . . . .	177
	References . . . . .	179
<b>9</b>	<b>Shaping the Context . . . . .</b>	<b>185</b>
9.1	Assessment of Preliminary Propositions . . . . .	185
9.2	Assessment of Lead Market Factors in India's Small Car Segment . . . . .	189
9.3	Difference Between a Classical and a Developing Country Lead Market . . . . .	190
9.4	Emergence Process of a Prospective Lead Market . . . . .	192
9.4.1	Starting Point: Trigger Event . . . . .	194
9.4.2	Phase I: Triggering of Investment Activity . . . . .	194
9.4.3	Phase II: Emergence/Strengthening of a Sustainable Production Base . . . . .	195
9.4.4	Phase III: Emergence of a Viable Export Base . . . . .	195
9.4.5	Phase IV: Emergence of an Attractive Innovation Base . . . . .	196
9.5	Postulations for Developing Country Lead Markets . . . . .	196
9.5.1	Confirmation of Existence & Viability . . . . .	197
9.5.2	Identification of 'Deficit Compensation' Mechanisms . . . . .	197
9.5.3	Key Shortcomings of a Developing Country Lead Market . . . . .	197
9.6	Assessment Tool for Product-Specific Lead Market Potential . . . . .	199
9.7	Research Implications . . . . .	201
9.7.1	Implications for the Theoretical Model . . . . .	202
9.7.2	Implications for Business Practice . . . . .	206
9.7.3	Implications for Policy Makers . . . . .	206
9.8	Limitations & Future Research . . . . .	208
	References . . . . .	208

<b>10 Conclusions . . . . .</b>	<b>211</b>
References . . . . .	214
<b>Appendix A: Economic Classification of Countries . . . . .</b>	<b>215</b>
<b>Appendix B: Interview Guidelines . . . . .</b>	<b>217</b>
<b>Appendix C: Anonymized List of Interview Partners Related to the Automotive Industry . . . . .</b>	<b>219</b>
<b>Appendix D: World's Top-Ten Car Manufacturing Nations . . . . .</b>	<b>221</b>
<b>Appendix E: Export Destinations for India-Made Passenger Cars . . . . .</b>	<b>223</b>
<b>Appendix F: Text of India's Finance Bill, Item 113 . . . . .</b>	<b>225</b>
<b>About the Authors . . . . .</b>	<b>227</b>
<b>References . . . . .</b>	<b>229</b>

Aiming Big with Small Cars

Emergence of a Lead Market in India

Tiwari, R.; Herstatt, C.

2014, XXVII, 229 p. 78 illus., Hardcover

ISBN: 978-3-319-02065-5