

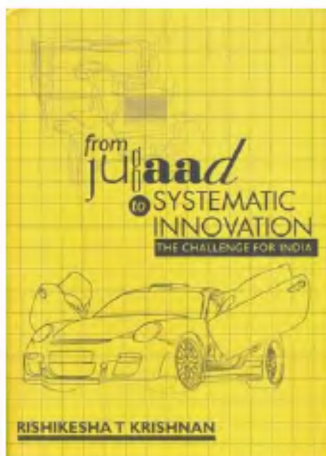
Most contributors to this volume have done commendable work in courageously addressing corruption in crucial administrative sectors. However, there could have been some contributions from teachers, from some students and from members of rural governance/administrative bodies. Experiences of people from all walks of life would have served to highlight to the urban readers how deeply corruption in public office affects everyday life. *The Edicts of King Asoka*³ spoke of state morality and of private or individual morality. His edicts talk of good conduct for the citizens and the ruler. Along the same lines it is also important to discuss the roles and responsibilities of the one who does not hold a public office as much the one who holds public office. Although this has been done in some measure, the book could have addressed issues related to the individuals' responsibilities in greater depth. The volume could have had a few examples of ethical governance, efficient judiciary and public administration as there are few references to other works that might be of interest to the readers. Maybe some of the contributors could have talked about their role models to highlight their ideals of ethical values.

A volume such as this was long overdue and will enhance the level of debate in ethical conduct in governance, public administration and the judiciary significantly by making the readers aware of the role of society and the individual. The collection of articles also presents a good trigger for debates in ethics and forms a sound basis for evolving a concept of ethical values for readers interested in administration. I would also recommend the book to public libraries and government agencies.

1. Kautilya, *The Arthashastra*, Edited, rearranged, translated and introduced by Rangarajan, L. N., Penguin Books, 1992.
2. *Member Workbook*, Local Leadership Academy; <http://www.idea.gov.uk/idk/aio/11052941>, accessed on 20 September 2010.
3. Ven, D. S., *The Edicts of King Asoka. An English Rendering*, The Wheel Publication No. 386/387, 1993; <http://www.urban-dharma.org/udharma/asoka.html#14rock>, accessed on 20 September 2010.

ANURADHA SRINIVASAN

Department of Management Studies,
Indian Institute of Science,
Bangalore 560 012, India
e-mail: srina@mgmt.iisc.ernet.in



From Jugaad to Systematic Innovation: The Challenge for India. Rishikesh T. Krishnan. The Utpreraka Foundation. 2010. 197 pp. Price: Rs 400.

Rishikesh T. Krishnan has written a book tracing the development of innovation in India post-independence. The question that the author explores in some detail is why with a talent pool that has demonstrated ability to innovate virtually in every part of the world, India has failed to be the source of major innovations on a sustained basis? This is a good question to ask and indeed has been the subject of some debate. The author has attempted to find answers by following a logical sequence of factors that influence innovation in the industries.

Throughout the book the importance of the political and economic context in which innovation is done is elaborated. Chapter 4 sets this aspect out well. After independence, the socialistic policies of the time coupled with the lack of access to capital justified the reliance on public sector to provide virtually all manufactured goods. That this led to highly protected, inefficient and substandard organizations was an unfortunate, but perhaps predictable consequence. The author should have also emphasized the lack of enterprise on the part of individuals to raise funds from the public, as was demonstrated by Reliance in the 1970s. Some of the policies of the Government exemplified by the diligent enforcement of acts such as the MRTP, are mentioned briefly as disincentives for innovation. In reality, it was far more impactful than that. Such acts served to kill Innovation. Later in the chapter, the author states that following the liberalization in the 1990s, such draconian policies were removed.

The positive impact on innovation that this had is not emphasized.

The importance of competition, reproducibility and scale-up in driving innovation is justifiably highlighted with good examples, particularly from the engineering and automobile manufacturing sectors. In the pharmaceutical sector the emergence of generics and the dimensions of innovation of generics are well set out. The lack of success in developing new chemical entities is a global problem facing the pharmaceutical industry as a whole. Besides a host of regulatory reasons for this, there is the issue that many metabolic disorders are caused by small but finite changes in multiple pathways and a single 'magic bullet' will not resolve this. In fact, the future of the pharmaceutical sector and the healthcare sector in general is dependent on finding appropriate business models that address the inherent complexity of variations between individuals.

The analysis of the emergence of the software industry in India is excellent. The important differences between the software development centres of multinational companies and the more recent entrants are well brought out. The difficulty in developing branded offerings is a vexing problem. Perhaps this should be an incentive to find alternative ways of building competitive advantage and therefore margin elasticity.

The role of the Government in various stages of innovation from providing trained manpower, infrastructure, fiscal incentives and regulation has been covered in depth. Changes to the intellectual property law have brought the Indian Patent Act more in line with international laws. Although this was seen as a threat in the beginning, it has actually provided a much needed thrust to innovation. The number of international patents granted has been used as a metric for innovation. The author has cited authoritative studies to draw conclusions about innovation in India and also within specific sectors such as the academia, pharma and information technology. Although this is by and large accurate, it is worth mentioning that process patents in manufacturing are often difficult to police and industries opt to work them as secret processes. That having been said, the power of granting letters of patent as an inducement for innovation is well acknowledged and in the book there is a good account of the state of affairs in India.

Several initiatives taken by the Government have been detailed. The general conclusion is that while these are good, their impact on innovation is rather indifferent. One of the reasons for this has been poor implementation of the funding initiatives. That funds received from the Government have little accountability in terms of output has not been highlighted as a major reason for the lack of innovation. The point that one of the most important aspects of securing funds from venture capitalists is not so much the finance but the 'hands on' approach to running the start up. Therefore, receiving funds from the Government might provide cash, but in the absence of rigorous follow-up and accountability for the money spent, the outcome is bound to be indifferent.

In chapter 4, there is an interesting discussion on the softer aspects of innovation in so far as it relates to the attitudes of Indians in general. Not being a sociologist myself, I cannot comment on the analysis, but would like to draw attention to this aspect as one deserving an in-depth study by those trained in the art.

Another important dimension of innovation is collaboration. This is at the level of individuals (team working), across various functions in an organization or across different departments in an academic institution, between academia and industry, among industries and even among competitors in a given sector. At different points in the book the author has highlighted the importance of collaborations and networking. His view that there is insufficient collaboration and that this is one of the reasons for the lack of innovation is an important point.

In the last chapter on 'What needs to be done', there are several important recommendations. These do provide a framework for improving the innovation output in India. The recommendations on how to make initiating 'start-ups' easier are useful. Creation of incubators which are more-than-affordable accommodation for inventors is good. I am not convinced that the recommendation to allow university staff to retain their positions while starting a venture is a good one. The reason ventures succeed or fail depends on the commitment and the single-minded dedication of the inventors to make it succeed. Providing safety nets often dilutes this resolve.

While Government support for start-ups is a good idea, the lack of involve-

ment of the funder in monitoring the start-up is a major problem. Funders need to be more involved in the venture if it has to succeed. For this the funder must have the skill. It may not be an exaggeration to say that this is lacking.

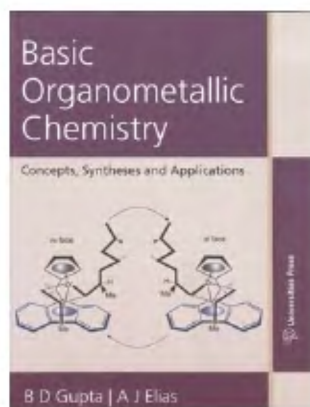
The recommendation to identify and use 'domain-specific' consultants is excellent. An 'outside-in' view is often priceless and regardless of the size of the organization, this is rather underdeveloped.

Reforming the educational system to improve research capability is also a useful suggestion. While accreditation is a suitable way of monitoring the performance and rewarding the good ones, one cannot help but feel that the downside of any accreditation system will be in its misuse. In the absence of real demand for qualified researchers from the industry, the output from our educational system will continue to be of poor quality.

In summary, Krishnan has provided a good analysis in this book. The solutions suggested at the end are worthy of taking note, particularly for Government funding agencies, academia and industry.

C. V. NATRAJ

*Department of Management Studies,
Indian Institute of Science,
Bangalore 560 012, India
e-mail: cv.natraj@googlemail.com*



Basic Organometallic Chemistry: Concepts, Syntheses and Applications. B. D. Gupta and A. J. Elias. Universities Press (India) Pvt Ltd, 3-6-747/1/A and 3-6-754/1, Himayatnagar, Hyderabad 500 029. 2010. 524 pp. Price: Rs 675.

Organometallic chemistry is being gradually integrated with the advanced chemistry curriculum across universities

and institutions in India. At the Master's level, it is still part of a specialized course in inorganic or organic chemistry in most universities that I am familiar with. Usually the NET syllabus dictates the topics that the instructors should cover. Hence, there is always a lack of coherent conceptual framework to organize the vast and ever-growing facts of organometallic chemistry in a comprehensible package. There is also a second factor: students of organic chemistry learn all the reactions that are exploited in synthesis, whereas students of inorganic chemistry pick up structure and bonding, magnetic and electrochemical properties in a major way.

A formal course format for organometallic chemistry of transition metals has evolved in USA over the past decades. While the exhaustive Collman-Hegedus text did not go beyond the second edition, the book written by Crabtree has gained wide acceptance as a standard text of manageable dimension, running beyond the fourth revised and updated edition. Even when it is modestly priced for students abroad, it is well beyond the means of students in India.

The book under review fills in an existing vacuum in this respect. Its contents are a balanced selection of topics from earlier books by Collman *et al.*, Crabtree and Eisenbroich. The coverage is extensive and up-to-date; the writing style is fresh, direct and unambiguous. The principles are brought out with clarity and apt illustrations. There are some topics like chirality that probably merit more extended discussion. But, for a book of this nature, we must admit that the authors have to be selective in the treatment of topics. This prompts me to suggest the inclusion of more references to reviews and monograph articles for interested students to look up and for teachers to gather materials from, for their own courses. Citations always add value to books that can be used both as texts as well as reference volumes. The 'Supplementary Reading' section frequently does not list important monographs or books published earlier, though it cites several extremely useful reviews and papers.

This reviewer particularly welcomes inclusion of topics related to the study of dynamic stereochemistry using NMR spectroscopy and emerging trends in bio-organometallic chemistry. Use of boxes has been highly effective in drawing