

EXECUTIVE SUMMARY

Reforms in Indian Power Sector were introduced with the expectation to make sector profitable. In the first phase of reforms The SEBs were unbundled into GENCO, TRANSCO and DISCOMS. In this phase the Power Exchanges were also established for power trading. The outcomes were not as promising. The onus of the end of reform euphoria was mainly placed on few shortcomings. These highlighted inadequacies includes- inconsistent policies, procedural complications internal to the sector and dire financial state of power utilities. The various concerns plaguing the Indian Power Sector also highlights inefficiencies due to - increasing financial losses, increasing debt burden on State DISCOMs, negative impact of losses and debt on GDP, increasing AT&C losses, increasing power purchase cost, increment in per unit cost of power, increasing gap between average cost and average revenue. The review of literature shows that financial losses of Power Sector were increased by ₹ 29,773 Crores from 2011 to 2013, debt burden on DISCOMs increased by 27% from 2003 to 2011, the AT&C losses reduced by 1.75% from 2011 to 2013 (this achieved rate of reduction in AT&C Losses is comparatively low to predicted reduction in AT &C losses), gap between Average Revenue and Average Cost increased by ₹ 33,109 crores from 2010 – 2013, average cost of per unit power increased by 70% from 2003 – 2011 and average tariff of per unit power increased from ₹ 1.74 from 2007 – 2014. These points signify the Business Problem as ‘Non-Bifurcation of Content and Carriage in Indian Power Distribution Sector is leading to opportunity Cost’. As per the best practices adopted globally, separation of carriage and content for introducing the retail competition in Indian Power Sector may yield into efficient sector.

The present work is organized into eight chapters for the purpose of presentation and exploration.

The first chapter, ‘Introduction and Background’ justifies following as the business problem, ‘Non-Bifurcation of Content and Carriage in Indian Power Distribution Sector is leading to opportunity Cost’.

The second chapter describes the reforms scenario in India. It further specifies the policy documents and relevant studies to be considered for the conceptualisation.

The third chapter details and global electricity markets and models. On the basis of global comparative metrics, relevant studies and literature review researcher has identified two countries- United Kingdom and New Zealand for conceptualisation process. This choice is made on following counts: i) United Kingdom and New Zealand retail markets rank higher than other countries as shown in retail competitive metrics developed by Sioshansi, 2005. ii) The first country to introduce competition in electricity industry was United Kingdom (Woolf, 1994). New Zealand market design provides fundamental design elements, which ensure competition (Hogan, 2001). iii) Consumer switching rates are highest in the United Kingdom followed by the New Zealand (Daglish, 2016). New Zealand is the only country in the world, which has implemented forced ownership unbundling of electricity distribution from rest of the supply activities in order to introduce retail competition (Gunn et al, 1999).

Chapter four does a structured review of the literature. This review of literature is undertaken on four research themes: Performance Indicators of Indian Power Sector, Regulatory Framework and Reforms in Power Sector, Global Power Markets and Competition, Global Experience in Retail Competition. The underpinning theory for the present study is identified as ‘Theory of Oligopoly’. The review on underpinning theory surfaced theory of ‘Mixed Oligopoly’ as a theoretical premise and following as theoretical premise gap, ‘There is a dearth of scholarly literature addressing the approach of restructuring in a transition scenario from monopoly to mixed oligopoly.’ The funnel approach (suggested by Creswell, 1994, adapted and expanded by Miller, 2009) is taken to refine and consolidate following as thematic research gap, ‘A comprehensive study could not be found which suggests a mechanism enabling bifurcation of carriage and content for the introduction of retail in Indian Power Distribution Sector’. Thus, the research problem developed on the bases of refined research gap is, ‘What approach should be adopted by policymakers to enable restructuring in a transition scenario from monopoly to mixed oligopoly’. This lead to following research question, ‘What should be a framework for bifurcation of carriage and content to introduce retail in Indian power sector?’ The research question directs the research design (Closs and Cheater, 1999) therefore the research design taken for present research is qualitative. Furthermore, the research objective of the present study is as follows; ‘To formulate a framework for bifurcation of carriage and content to introduce retail in Indian power sector’.

Chapter five elaborates qualitative research design and methodology for framework analysis (Smith and Firth, 2011). Appendix F is appended for further elaboration of Interview protocol formation and validation.

Chapter Six performs conceptualization (Theory of Conceptual Development, Vygotsky, 1986) to develop interview protocol. The conceptualization is based on the retail regulations of three countries – India, United Kingdom and New Zealand. Besides review on relevant studies, two conceptual lenses were framed which were then based to develop interview protocol which was further validated (Lincoln and Guba,1985) to obtain Interview protocol on which exhaustive interviews of India Power Sector experts and upper echelon were conducted.

Chapter Seven includes interpretation of data analysis. Initially, on the exhaustive interview transcripts. 50 categories were identified which were refined into 33 broader Categories. Consecutively, these categories were brought together to form 10 initial themes. 6 themes were emerged out finally through framework analysis which ultimately resulted in the formation of core concept ‘Introduction of Retail Competition in India’. In this chapter, findings are discussed to reach out the proposed framework.

Finally, in the last chapter of this report the researcher has concluded the research problem by discussing the competition within the electricity market and for the electricity market, restructuring in the electricity market, and a proposed framework to introduce retail competition in Indian Power Sector. The Implications of research are also presented in this chapter in line with the business problem addressing the research gaps. The present study concludes with following:

Retail Competition shall enable the transition of Indian Power Distribution Sector from monopoly to mixed oligopoly. A restructuring would be done for the separation of carriage and content. The carriage is a natural monopoly. In content business, the second player shall be introduced to support the competition in the market. As per this study, a framework for the Separation of Carriage and Content Business in Distribution Segment to Introduce Competitive Retail in Indian

Power Sector requires: Regulatory Provisions, Transfer Scheme, Unbundling of Distribution Business, The Electricity Code, Open Access and Consumer Switching.

The present study forwards suggestions and recommendations for theory and practice. Academic Implications reflects the contribution of study into the theoretical premise. The study suggests new constructs which may affect the profit ranking of a firm in mixed oligopoly market structure. Economic Implications contributes in answering the business problem and reflects that the retail competition shall address the existing inefficiencies of Indian Power Sector. This will have positive consequences on the growth of Indian economy. The economy of the country is expected to grow at a higher rate in the foreseen retail scenario. Policy Implications suggest that policy-makers of India may use the output of this thesis as the guideline for redesigning and evaluating the electricity market liberalization schemes. They may formulate and implement retail competition in Indian Power Sector as per the suggested framework. Finally, the Managerial Implications suggest the effective management of resources during the transition of the industry from one phase of restructuring to another phase of restructuring.