CHAPTER 1

BACKGROUND AND INTRODUCTION

1.1 BACKGROUND

The Indian economy expanded 7.9 percent in the first three months of 2016. The GDP for 2015-2016 (April to March) was 7.6 percent while it was 7.2 percent in 2014-15. The figures are suggesting growth. The GDP Annual Growth Rate in India averaged 6.07 percent from 1951 until 2016. (Ministry of Statistics and Programme Implementation, 2016). A growth of above eight (8) percentage in the Indian economy is anticipated during the Fiscal Year 2017 (Panagariya, 2016). However, due to the recent impact of demonetization, the said growth may not be so.

Power, being one of the critical components of infrastructure is crucial for the economic growth and welfare of the nation. The existence and development of adequate power infrastructure is, therefore, essential for sustained growth of the Indian economy. The power sector in India is mainly governed by the Ministry of Power. There are three major pillars of power sector, and these are - generation, transmission, and distribution. Power generation, transmission and distribution are the responsibility of the Government of India (Min. of Power's website).

Power distribution is an interface between the utilities and consumers. Distribution is also considered as the cash register for the entire sector, thus, making it an important link of the power sector value chain. The responsibility for distribution and supply of power to customers in the rural and urban areas rests with the states. And, for improving the distribution services, these states are also provided assistance through sponsored schemes by the Indian Government.

There has been a continual increase every year in the peak electricity demand in India. Table 1.1 shows the annual per capita consumption of electricity since 2006 in India. The table indicates that there has been a continual increase every year in the per capita consumption of electricity in the last decade.

Table 1.1: Annual Per Capita Consumption of Electricity in India (2005-2014)

Year	Per Capita Consumption (kWh)#
2005-06	631.4
2006-07	671.9
2007-08	717.1
2008-09	733.5
2009-10	778.6
2010-11	818.8
2011-12	883.63
2012-13	914.41
2013-14	957*

(Gross Gen.+ Net Import) / Mid-year population, *Provisional

http://powermin.nic.in/content/power-sector-glance-all-india)

As evident from the electricity demand from the year 2006 to 2013 is increasing with an average annual rate of 6.9 percent. The increased household consumption with urbanisation can be one of the reasons of increased electricity demand. Figure 1.1 shows expected household electricity consumption in forthcoming years.

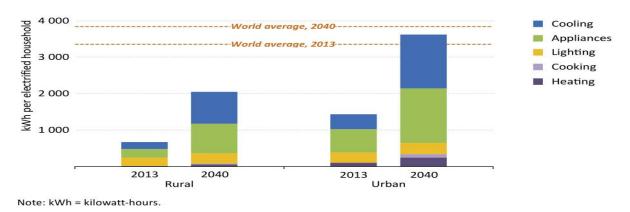


Fig 1.1: Annual Electricity Consumption Per Electrified Indian Household (2013)

(Source: IEA Report - India Energy Outlook, 2015)

India has developed its resources during the past few years to meet its peak demand of electricity. The present demand and supply deficit is 2 percent. This deficit level is in decreasing trend over the past few years. Table 1.2 shows the power demand and supply statistics from 2009 to 2016.

Table 1.2: Power - Demand and Supply Statistics in India (2009-2016)

Year	Energy				Peak			
	Requirement Availability		Surplu	Surplus (+) / Peak		Peak	Surplus (+) /	
	Requirement	Avanability	Deficits (-)		Demand Met		Deficits (-)	
	(MU)	(MU)	(MU)	(%)	(MW)	(MW)	(MW)	(%)
2009 -	8,30,594	7,46,644	-83,950	-10.1	1,19,166	1,04,009	-15,157	-12.7
2010	0,50,574	7,40,044	-03,730					
2010 -	8,61,591	7,88,355	_73 236	-8.5	1,22,287	1,10,256	-12,031	- 9.8
2011	0,01,391	/,88,333	-73,236	-8.3	1,22,26/	1,10,230	-12,031	-9.8
2011 -	9,37,199	8,57,886	- 79,313	-8.5	1,30,006	1,16,191	-13,815	-10.6
2012	9,37,199	0,57,000	-/9,313	-0.3	1,30,000	1,10,191	-13,813	-10.0
2012 -	9,95,557	9,08,652	-86,905	-8.7	1,35,453	1,23,294	-12,159	- 9.0
2013	9,93,337	9,08,032	-00,703	-0.7	1,33,433	1,23,294	-12,139	-9. 0
2013 -	10,02,257	9,59,829	-42,428	- 4.2	1,35,918	1,29,815	-6,103	- 4.5
2014	10,02,237	9,39,629	72,420	7.2	1,55,916	1,29,613	-0,103	-1 .5
2014 -	10,68,923	10,30,785	-38,138	-3.6	1,48,166	1,41,160	-7,006	- 4.7
2015	10,00,923	10,50,765	-36,136	-38,138 -3.0 1,48,10	1,40,100	1,41,100	-7,000 -4	-4 ./
2015 -	11,14,408	10,90,850	22 559	-2.1	1 52 266	1,48,463	-4,903	-3.2
2016	11,14,400	10,50,650	-23,558	- ∠.1	1,53,366	1,40,403	-4,903	-3.2
2016 -	2,95,344	2 02 822	2 522	-0.9	1 52 074	1,49,971	-3,003	-2.0
2017*	4,73,344	2,92,822	-2,522	- 0.9	1,52,974	1,47,7/1	-3,003	-2.0

^{*} Provisional (Up to June 2016)

http://powermin.nic.in/content/power-sector-glance-all-india)

To meet the peak demand, the government is making continuous efforts to increase the installed capacity of electricity generation. Table 1.3 shows this growth in brief.

Table 1.3: Electricity Generation in India (Installed Capacity up to January 2016)

Plan / Year	Thermal			Nuclear	Hydro	RES	Total	
rian / i cai	Coal	Gas	Diesel	Total	inucical fryuto		(MNRE)	(MW)
End of 6 th plan	26311	542	177	27030	1095	14460	0	42584
End of 7 th plan	41237	2343	165	43646	1565	18307	18	63636
End of 8 th plan	54154	6562	294	61010	2225	21658	902	85795
End of 9 th plan	62131	11163	1135	74429	2720	26266	1628	105045
End of 10 th plan	71121	13692	1202	86015	3900	34653	7760	132329
End of 11 th plan	112022	18381	1200	131603	4780	38990	24503	199877
End of Jan 2016	175238	24509	994	200740	5780	42663	38821	288005

(Source: Central Electricity Authority, January 2016)

The above table suggests that the Indian energy sector is expanding quickly. The role of energy sector is more critical in present policy priority of developing India's manufacturing base. There is a growth anticipated in both electricity requirement as well as the installed generation capacity of the country. The electricity demand projection under two different GDP growth rates as per Planning Commission's report is presented in Figure 1.2.

Year	Total Electricity Required (Billion kWhr)		Installed Capacity (MW)		
	GDP Growth Rate				
	7%	8%	7%	8%	
2011-12	1031	1097	206757	219992	
2016-17	1377	1524	276143	305623	
2021-22	1838	2118	368592	424744	
2026-27	2397	2866	480694	574748	
2031-32	3127	3880	627088	778095	

Fig. 1.2: Electricity Demand and GDP Projections (2011-2032)

(Source: Energy Policy Report, Planning Commission, 2006)

1.2 INDIAN POWER INDUSTRY

Privatisation was introduced in India in 1991 attracting private capital to participate in power generation, transmission, and distribution. Thus reforms were introduced in the power

FUNCTION	CENTRAL LEVEL	STATE LEVEL				
Policy	Ministry of Power (Central Electricity Authority)	Department of Energy				
Regulation	Central Electricity Regulatory Commission (National Grid Code, interstate transmission and sale of power including tariff)	State Electricity Regulatory commission (Intra State transmission and sale of power, including distribution tariff for final consumer)				
Generation	Central sector undertakings (Thermal, Hydel and Nuclear)	State	Govt. Owned GENCO	Private GENCO (IPPS)		
Transmission	Central Transmission utility (Power Grid corporation of India Limited)	Electricity Board (SEBs)	State Transmission utilities (Govt. Owned Transco)			
Distribution	-	(SLDs)	Govt. owned DISCOMS	Private DISCOMS		

Fig 1.3: Post-reform institutional framework of power sector

(Source: Bhattacharya and Patel, 2007)

sector on the administrative, legal, structural, and regulatory front. The State Electricity Boards (SEBs) were alienated into manageable entities for setting up regulatory mechanism to rationalize power tariff and promote efficient policies. Figure 1.3 shows the institutional framework of Indian power sector after reforms.

The background of the post-reform institutional framework of power sector is in the evolution of Indian power industry from pre-reforms phase to the post-reforms phase. Table 1.4 delineates these developments.

Table 1.4: Pre and Post-Reform Developments in Indian Power Industry

Year	Development				
	Developments during the pre-reform phase of Indian power sector				
1879	First commercial generation of electricity at Kolkata (then Calcutta).				
1897	• License for 21 years was granted to Calcutta Electricity Supply Corporation.				
	• Mumbai (then Bombay) was the 2 nd city to get electricity.				
1910	Electricity Act 1910 enacted for supply of electricity.				
1948	Electricity (Supply) Act 1948, based on UK Electricity Supply Act 1926, was				
	introduced				
1951	Establishment of Central Electricity Authority (CEA) at the Centre, and State				
	Electricity Boards (SEBs) at the State level.				
1980	Private sector participation was proposed to handle power crisis.				
1981	National Power Grid was formed and National Power Transmission Corporation				
	(NPTC) was incorporated.				
1986	Power Finance Corporation (PFC) was formed to supplement planned expenditure on				
	existing and new power plants.				
1990	SEBs suffered huge financial and technical losses resulting in poor customer services				
	and increase in Demand-Supply gap.				
	Developments during the reform phase of Indian power sector				
1991	Electricity Act 1910 and the Electricity (Supply) Act 1948 were amended through the				

	Electricity Laws (Amendment) Act of 1991 allowing Independent Power Producers				
	(IPPs) to operate.				
1995	Mega Power Policy was introduced for private investments.				
	Developments during the post-reform phase of Indian power sector				
1996	Restructuring in power sector initiated. Orissa became the first state to restructure its				
	power sector.				
1998	The revised Mega Power Policy included fiscal concession.				
	• Power Trading Corporation (PTC) was set up to purchase power from identified				
	projects and sell to identified-SEBs.				
	• Electricity Laws (Amendment) Act 1998 was passed to enable private participation				
	in power transmission sector.				
2000	CERC issued first Indian Electricity Grid Code (IEGC) for transmission and				
	distribution sector.				
2003	Electricity Act 2003 for reforms and restructuring power sector.				
2005	National Electricity Policy				
2007	Electricity Act 2003 was amended to check the commercial losses due to theft and				
	unauthorised use of electricity.				

1.3 INDIAN POWER DISTRIBUTION COMPANIES (DISCOMS)

Power distribution companies, christened as 'DISCOMs', came into existence upon introduction of reforms in Indian power sector in 1991. DISCOMs are responsible for delivering electricity, transformed from the high-voltage transmission system to the low-voltage distribution system, and finally to the customers of different categories in their area of operations. There are presently 69 power distribution companies operating in the 29 States and seven (7) Union Territories of India (Power Advisor, 2016). In order to ensure quality and focus of the research, it was not possible to include all DISCOMs operating in the large geographical area of the country. This study is, therefore, based on all the DISCOMs operating in the central part of India. In total, there are four DISCOMs operating in the states of Madhya Pradesh and Chhattisgarh in central India.

1.3.1 Training Needs Assessment in DISCOMs

Article 10.87 of Chapter 10 (ten) of the 11th Five-Year plan of Planning Commission of India states that human resource development and capacity building in the present power scenario demands a very comprehensive and pragmatic approach to attract, utilize, develop, and conserve valuable human resources. Training, re-training, and career prospects are some of the important elements of human resource development. The reforms in the power sector have led to change in the role of senior engineers from a purely government-controlled technical management to business management in a corporatized framework. The Article 10.88 of the same chapter states that the technically trained manpower, comprising skilled- engineers, supervisors, artisans, and managers, is required in every sphere of the power supply industry. Due to the introduction of more sophisticated technology and automation there is a decline in the 'Man-Mega Watt' ratio. This indicates the increasing importance of each individual, the man behind the machine. Therefore, in compliance to the National Training Policy for power sector training needs of the technical, non-technical, and support staff should be prioritized. Training improves the overall organization profitability, effectiveness, productivity, and revenue (Aguinis and Kraiger, 2009). Training enhances the employees' capacity to contribute the optimal performance of the organization (Olaniyan and Ojo, 2008).

Training needs assessment (TNA) is a systematic inquiry of training needs within an organization for the purposes of identifying priorities to make decisions and allocating finite resources in a manner consistent with identified program goals and objectives (USAID 2011).

The Department of Public Enterprises, Ministry of Heavy Industry & Public Enterprises, Government of India (MHIPE, 2012) report under title, 'Training Needs Assessment and Recommendations for Capacity Building in State Level Public Enterprises' recommends that the training needs in the electrical sector must be assessed, designed, implemented, monitored and reviewed to achieve desired deliverables. The report recommends that the assessment of training needs should be done by an independent body. It further suggests that the monitoring and review of training programs should be based on participants' feedback to fulfil trainees' requirements and needs from the training.

1.4 NEED FOR RESEARCH

Projection of Power Requirements: The electricity demand of India has grown up in the recent years, and is likely to escalate further in the forthcoming years as shown in Figure 1.4. According to Remme et al. (2011) the technology development prospects for the Indian Power Sector has projected the electricity demand in India from two different sources, i.e., Central Electricity Authority (CEA) and Energy Technology Perspectives (ETP).

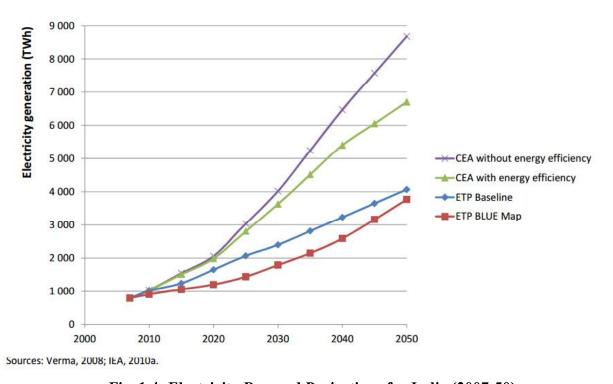


Fig. 1.4: Electricity Demand Projections for India (2007-50)

In the above figure the CEA scenario, marked by purple line, shows that no energy efficiency improvements will be implemented. The CEA scenario, marked by green line, indicates energy efficiency improvements, displaying a decline in demand elasticity from 0.95 to 0.5 over time. The curves, marked in the Figure 1.4, depict significant growth in the demand up to 2050 in all scenarios.

Growing Demand of Power and Peak Shortages: The power demand in India along with percentage peak shortage is presented in Figure 1.5. The figure depicts the growing trend in the power demand.

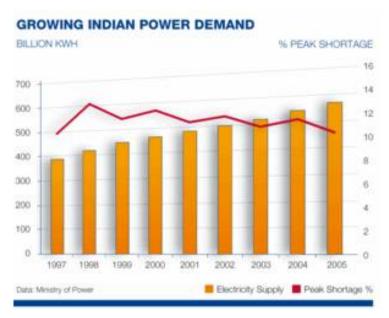


Fig. 1.5: Growing Electricity Demand in India (1997-2006)

(Source: Ministry of Power)

The above figure illustrates that the demand of electricity per head in India is more than the electricity being generated. However, the shortage of power in peak hours as shown in above figure is reducing successively.

Power Sector's Customer Survey Conducted by Regulatory Commissions and others Bodies: Surveys of DISCOMs' customers have been conducted in different states of the country to know their satisfaction with DISCOMs' services. Few of these survey findings are as under:

1. <u>Customer Satisfaction Survey Conducted by Delhi Electricity Regulatory Commission</u> (<u>DERC</u>): As per DERC, the overall rating of the performance of 3 DISCOMs in Delhi, on a scale of 1 to 10 was 5.4 in the consumer satisfaction survey was carried out in 2007. The rating of performance of those 3 DISCOMs improved to 5.9 in the same consumer satisfaction survey repeated in 2009.

- 2. <u>Customer Satisfaction Survey Conducted by Maharashtra Electricity Regulatory Commission (MERC)</u>: As per MERC, the results of the survey carried out by MERC in 2012 showed that only 49.8% of the electricity consumers were satisfied with the resolution of their complaints by DISCOMs, and 55.8% had to indulge in repeated follow-ups to get their complaints attended (MDRA, 2013). The consumer survey report of a pilot project on capacity building on electricity reforms (2008-2010) confirmed that even after 10 years, only 2% of general electricity consumers were aware of reforms and their benefits for them.
- 3. <u>Customer Satisfaction Survey Conducted by the Socioeconomic Environment Development Centre (SEDC) in 8 Indian States</u>: A survey was conducted jointly by SEDC and Synovate in 240 villages of eight (8) different states in India across 16 districts for Vasudha foundation's study in the year 2011 to understand ability and willingness to pay for energy services. Thirty-five percent (35%) of the respondents had expressed their dissatisfaction with current electric supply. Major reasons for dissatisfaction were irregular power supply, erratic cuts without any pre-intimation, and load shedding.
- 4. Customer Satisfaction Survey Conducted by the Consumer Unity & Trust Society (CUTS)

 International in Rajasthan: CUTS International conducted a research in the year 2012 titled,

 'Plight of Electricity Consumers in Rajasthan: An Analysis of a Consumer Awareness

 Survey' under the project entitled 'Grassroots Reach out and Networking in Rajasthan
 through Consumer Action (GRANIRCA)' implemented in twelve (12) districts in partnership
 with the Department of Consumer Affairs, Ministry of Consumer Affairs, Food and Public
 Distribution, Government of India, under the Consumer Welfare Fund. The objective was to
 gauge the level of awareness of consumers in electricity reforms and also understand the
 level of their satisfaction regarding all kinds of electricity services provided to them by the
 service provider. The results showed 69% of the respondents, who had lodged any type of
 complaint, were not satisfied with the way their complaints were handled and resolved.

These survey results indicate that DISCOMs' frontline managers (FLMs) have a vital role in improving customers' satisfaction. The frontline managers are the ones who ensure reliable power supply, educate power customers on electricity related issues and resolve their billing issues.

The frontline managers act as an inter-face between the DISCOM and its customers. Their skills, knowledge, expertise, and attributes in dealing with customers are a replica of DISCOMs' image in public. World Bank's Report (2002) underlines that the distribution utilities need to focus on enhancing customer satisfaction by providing efficient and reliable service in India where 20% of customers account for 80% of the revenue.

1.5 BUSINESS PROBLEM

The challenges faced by the power distribution sector in India can be summarized as below:

- 1. The technological scenario has changed upon formation of DISCOMs leading to various thrust areas.
- 2. Many new technologies and practices have been introduced in DISCOMs' operations.
- 3. Customers' expectations from DISCOMs' services have considerably increased.
- 4. Role of frontline managers in Indian power distribution sector has consecutively gained much more significance.
- 5. Training needs assessment at different employee levels is needed for a better performance, especially at the frontline level.

The business problem can hence be stated as – 'Inadequate training of frontline managers at Indian DISCOMs in new technologies and commercial practices is resulting in inefficient operations.'

1.6 SIGNIFICANCE OF THE STUDY

Despite being an interesting topic for the study, modern technologies, trained manpower for efficient services happen to be the most noteworthy subject for any service provider, big or small. Globalisation and liberalisation have now compelled the organisations to function in a cut-throat competitive business environment and utilities cannot be left alone. In order to sustain in such an

environment every business needs to possess quality trained manpower to best serve its customers.

Power sector reforms have changed the roles and responsibilities of executives at different levels of lately formed DISCOMs. Trained executives are desperately needed in DISCOMs to efficiently perform their changed roles at different management levels. Many new technologies and practices have been introduced in the electricity distribution sector during the past two decades. Lately formed DISCOMs now undertake many more operations with a commercial approach. Introduction of SMART grid, SMART metering infrastructure, automation of grid station operations, demand response, energy monitoring, promoting High Voltage Distribution System (HVDS), increasing energy efficiency and integrating intermittent forms of renewable energy like - solar and wind power, implementation of anti-theft measures, efficient metering, timely billing, effective revenue collection, and improved customer services, are just a few to mention.

Under the above mentioned scenario, a considerable growth in electricity distribution sector is foreseen in India during the ensuing decades. Accordingly, the need of quality-trained manpower especially at the frontline management in the distribution sector, is anticipated. This study focuses on the training needs of DISCOMs' frontline managers in the technical and commercial areas. Thus, this study will add to the knowledge of existing body. It will be useful for DISCOMs in general, and particularly in developing their frontline managers in a better and effective manner. The proposed study therefore carries lot of significance and importance.

1.7 RATIONALE OF THE STUDY

The electricity distribution sector in India is facing an energetic growth in recent times. An annual growth of 2.07% and 7.65% was reported in the distribution network and transformer capacity in the year 2012. To further boost the growth rate; Government of India has initiated various schemes for distribution sector. These are - Integrated Power Development Scheme (IPDS), Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY), Ujwal DISCOM Assurance Yojana (UDAY) etc.

- 1. Reforms in the Power Industry: Reforms in the power industry are by and large bringing certain major changes to the operating environment everywhere. In the deregulated scenario, full of competition and opportunities, electric utilities require quality-trained manpower in several additional areas of expertise in addition to the existing ones (Vishwakarma and Dwivedi, 2016). There is an appalling shortage of experienced engineers in the new technology areas that will define the future of our electric power system (Russel, 2010). Some of these new technology areas include; supervisory control and data acquisition (SCADA) and geographic information system (GIS) applications, automatic meter reading (AMR), global system for mobile (GSM) switching, geographical information systems (GIS) and SAP-integrated asset management, distribution management system (DMS) or distribution automation (DA), outage management system (OMS), Secondary Data Centre, and many more (Singhania and Kinker, 2015).
- 2. <u>Technical Solutions for Efficiency Improvement Adopted by DISCOMs</u>: World Bank's report, 'More Power to India: The Challenge of Distribution' (2002), says that more than 20 Indian states have implemented as many as 17 new technologies and practices to improve efficiency of their DISCOMs as shown in Figure 1.6.

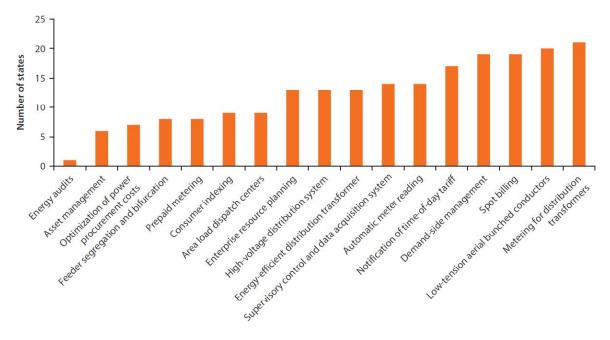


Fig. 1.6: Technical Solutions or Efficiency Improvement Adopted by DISCOMs (Source: World Bank's report, 'More Power to India: The Challenge of Distribution', 2002)

The skills required to run the Indian energy sector will change over the coming decades, requiring an intensified effort with training and vocational education. There is a rise (from 25% to 35%) in the estimated requirement for semi-skilled and skilled workers, such as engineers, project managers, and technical staff (IEA Report, 2015). An official document of Ministry of Power (2012) has quoted that DISCOMs' manpower is not trained in the new technologies and practices resulting in performance deficiency and reduced customer satisfaction, demanding regular updating of employees' skills. Article 5.1 of Government of India's National Training Policy Report, 2002 underlines that training which was earlier being considered as an optional activity, is critical for industry. The report highlights an inadequacy of trainers and insufficient training facilities in power sector. According to IBM Smarter Workforce Study (2014), the best performing companies invest in training and training helps in achieving the objectives faster.

3. The Indian Power Customers' Satisfaction Surveys carried out by World Bank: Research reports of World Bank have also underlined that distribution utilities need to focus on enhancing customer satisfaction by providing efficient and reliable service in India where 20% of customers account for 80% of the revenue. DISCOMs can choose between costly but energy efficient technologies, which require skilled labour, or relatively cheaper, easily available less efficient technologies to build distribution network (Bhatt, 2011). Today's customers not only expect quality electricity supply but also expect DISCOMs to educate them on energy efficiency, energy savings, and safety issues (Vishwakarma and Dwivedi, 2016). There is, therefore, a need of regular updating of employees' skills to cope with rapidly advancing technologies and practices (Govt. of India, Min. of Power, 2012). A key measure to reduce losses in the networks of the Indian distribution companies concerns the implementation of technologies that enable accurate monitoring of the system to identify leaks and better focus investments and recovery actions (World Bank, 2016). The DISCOMs have adopted new technologies and commercial practices, but the manpower, especially at frontline level, is not adequately trained on them, which is resulting in inefficient operations and customers' dissatisfaction. World Bank's report (2002) says that Restructured Accelerated

Power Development and Reforms Programme (RAPDRP) initiatives can be successful only if the capacity of the utility staff is improved through appropriate skills and requisite training.

Thus, the first possible theme for literature review in the present study can be, post reforms developments in Indian power sector.

1.8 ORGANIZATIONAL SCHEMATA OF REPORT

The present work is organized in seven chapters for the purpose of exploration and the presentation. The first chapter, 'Introduction and Background' constitutes the business problem and its scope. The second chapter describes about power distribution companies operating in central India. Third chapter details training needs assessment theories and models in practice. Chapter Four includes structured review of literature. Chapter Five describes research methodology. Chapter Six includes data analysis and findings, followed by operationalization and conclusions in the last Chapter Seven.

The first chapter, introduction and framework, is in one section, constitutes the business problem and its need. The second half of the section includes the plan of the execution and presentation of the research.

The second, third, and fourth chapters form the theoretical frame of reference. Chapter Two provides an introduction to the Indian power sector with reference to DISCOMs under study; while Chapter Three introduces theory and model of TNA relevant to present study. The critical analysis of research gaps identified on theme based review of literature is presented in Chapter Four.

The fifth chapter includes the methodological and procedural presentation of conducting the research for the problem under investigation. The first half highlights the analysis of research gaps in research problem, research objectives, research questions and the operating definitions. The second half details on pilot study, followed by main study based on Stratified probability proportional to size (PPS) sampling comprising 360 managers at middle and frontline levels of

all four power distribution companies in central India. The questionnaire with organisational, task, and person items, after establishing their reliability and validity, was used to collect data to conduct O-T-P analysis (TNA) by using statistical software SPSS.

The sixth chapter, 'Operationalization and Conclusions', includes the analysis and interpretation on the data followed by discussions on it. The concluding chapter consists of conclusions, implications, and future scope of the work.

1.9 SUMMARY

- 1. Reforms in the power sector have brought certain major changes in the operating environment.
- 2. Due to the introduction of more sophisticated technology and automation, there is a decline in the Man-Mega Watt ratio. This indicates the increasing importance of each individual, the man behind the machine. Therefore, in compliance to the National Training Policy for power sector, training needs of the technical, non-technical, and support staff should be prioritized.
- 3. DISCOMs have already implemented / in the process of implementing many new technologies and practices to improve efficiency. Against this backdrop, the researcher wanted to probe, whether the frontline managers are adequately updated with these new technologies and practices. For this, the researcher would be studying how the training needs of frontline managers are determined at the power distribution companies.
- 4. The business problem of the present study is Inadequate training of frontline managers at Indian DISCOMs in new technologies and commercial practices is resulting in inefficient operations.
- 5. The first research theme for literature review is, 'Post- reforms Developments in Indian Power Sector.'
- 6. The present work is organized in seven chapters for the purpose of exploration and the presentation. The first chapter, Introduction and Background highlights the need, significance and rational of the business problem and its scope. The second, third, and fourth chapters are related to literature review. The chapter five is methodology for the research, and the sixth and seventh chapters are dedicated to operationalization and conclusions.