# CHAPTER 4
# STRUCTURED REVIEW OF LITERATURE


## ABSTRACT

This chapter introduces the conceptual foundation of organisation-task-person analysis model for determining training needs at power distribution companies (DISCOMs) in central India. The first part of the chapter presents the studies which have undertaken O-T-P model for determining training needs in utility sector. The second part includes theme based review to identify the research gaps. Critical analysis of the identified research gaps has been attempted.


## 4.1 INTRODUCTION

The need of training in current business climate of an exponential growth of technology, and a multifaceted impact on the socio-economic growth is more pronounced than ever (Vishwakarma and Tyagi, 2016). In this ongoing scenario of power sector reforms in India, where DISCOMs need to operate in a competitive environment, constant changes in technologies and practices are a common occurrence. The changing training needs at DISCOMs, therefore, cannot be ignored. This chapter describes the conceptual foundation of O-T-P model for training needs assessment in the utility sector. Relevant studies undertaken on TNA have been discussed in general and on organisation analysis, task analysis and person analysis specifically. Dimensions and findings of the past studies undertaken explicitly on the reforms in Indian power industry, technological upgradation and customer expectations are taken to address research Themes 1 and 2. While relevant studies on organisational analysis, task analysis, and person analysis have been listed and discussed to address the research Theme 3. This theme based review of literature has led to certain research gaps. These identified research gaps are then analysed for their criticality in the light of business problem.

## 4.2 CONCEPTUAL FOUNDATION OF O-T-P MODEL FOR TRAINING NEEDS ASSESSMENT IN UTILITY SECTOR

The present study is on Indian power sector which also represents the utility sector. Thus, for literature review the studies undertaken on O-T-P based TNA in the utility sectors of India and abroad are compiled in Table 4.1.

**Table 4.1: Studies undertaken on Training Needs Assessment using O-T-P Model**

| S. No. | Title –Author (Year) | Detail | Findings |
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| 1 | "Blue Print for Power Sector Development"- Ministry of Power, Govt. of India.<br><br>(2001) | Training of the human resources in the power sector and adoption of progressive management practices and tools, (including IT). Personnel were educated about their changed roles in the power reform scenario. A Standing Committee on Research and Development was constituted to draw up a perspective research and development plan to ensure optimum utilization of the infrastructure and provide a standing forum for R&D activities in the power sector. Another committee was set up to formulate a 'National Training Policy for Power Sector' and to develop a | The findings were - Upgrading technical efficiency and skill levels, and re-orientation.2) Aligning skills and mindset of power professionals to the changing requirements. 3) Integration of training facilities available in the sector to optimize their utilization. |

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| | | national level action plan for training. | |
| 2 | "TNA for Ministry of Energy and Water Division"- Ministry of Energy & Water (MEW), Afghanistan (2006) | Methodology included interview meetings with MEW stakeholders – both internal and external. External stakeholders included donor agencies, their consultants and contractors working with MEW. Internal stakeholders included MEW officials, state owned entities officials, and Priority Reforms and Restructuring task force members. | The key findings were - no overall capacity building strategy in place, limited management of the training function, 90% of the training provided was directly tied to donor-funded technical assistance programs, on- the-job training and part-time training programs were the most commonly used approaches, often difficult to find appropriate personnel for participation in training programs being offered, and lack of motivation to learn. |
| 3 | Training Needs Assessment Report of Solid Waste Management Program in India<br><br>WPI, IPE & CEE (2006) | TNA included following steps- 1) Consultation with municipal and state government officials on deficiency. 2) TNA Survey among municipal officials. 3) SWM experts' opinion on SWM training needs. 4) Analyzing target group specific training needs. 5) Assessment of institutional capabilities to provide training. 6) Validation of training needs. | After looking at the educational levels, technical competencies, experience, responsibilities, abilities gap, areas of training needs and preferred duration of training, suitable training programs were suggested. |
| 4 | TNA in Logistics and Transportation | Developing data collection instruments, conducting focus groups and careful analysis of | TNA revealed gaps in almost every area examined. Gaps were due to two primary factors. The |

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| | Industry in Central Pennsylvania (2006) | the data to make recommendations. | first is that many companies do not offer training to their employees even in the areas they deem most critical. The second is that the training that is offered by companies (internally or externally) is not always effective. |
| 5 | TNA and Strategic Training Plan for National Capital Region Planning Board. ADB (2009) | A three level TNA was conducted. Scanning of work situation was undertaken to comprehend the existing and potential discrepancies. Scanning performance discrepancy was conducted through studying records and reports, direct observation of the way the employees carry out their duties, communicate with each other, and asking questions. | Gaps revealed in competence required for project planning, project development, financial management, documentation, project appraisal & management, and monitoring and evaluation of plan implementation. Threw light on gaps the very institutional arrangement in the constituent states for planning and coordination for regional plan that are beyond the purview of training and entails interventions required for institutional restructuring. Processes for enhancing competencies through a need-based training intervention were addressed. |
| 6 | Training needs assessment practices in corporate sector | The study measured the level of TNA undertaken in the organization prior to decisions made on training based on the | TNA techniques were practiced on an adhoc basis. Mostly, organizations are not much familiar with different kinds of |

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| | of Pakistan.<br><br>Sherazi et al. (2011) | OTP model. Responses on 5-point likert were used to assess the more frequent techniques of TNA adopting by Pakistani corporate sector on each of the three levels. | TNA practices and techniques. Majority of investigated organizations is not enough to claim that they are really engaged in effective TNA analysis as their major focus is person analysis only. |
| 7 | TNA: An empirical study of the Abu Dhabi Police.<br><br>Ali Ghufli (2012) | Through structured interviews and questionnaires, the study attempted to seek and understand how the TNA process is practiced in the ADP from the perspective of the participants, understudy, and investigates issues that affect TNA practices, including genuine obstacles to their chance of success. | TNA is critical in the planning and design of any training program. It can provide a detailed picture of an organization's knowledge, skills and ability base, and then it becomes possible to focus attention on areas where training is needed. |
| 8 | Training needs assessment in Islamic banking sector.<br><br>Mirza, Riaz (2012) | Data collected through in-depth interviews, questionnaires. Statistical tools were applied to analyze the responses and interpret results. | TNA identified more than one training need, the training manager, working with management, prioritizes the training based on the urgency of the need (timeliness), the extent of the need (how many employees need to be trained) and the resources available. Using this information, the training manager can develop the objectives for the training and development programs. |

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| 9 | An Investigation of TNA Processes in a Libyan Organisational Context: Case Study of the Libyan General Electricity Company Atoki (2013) | Data collected through in-depth interviews, questionnaires | Positive relation exists between job analysis, knowledge, skills and abilities, career development, and performance analysis. |
| 10 | Competency based Training Need Assessment – Approach in Indian companies.<br><br>Sarkar (2013) | Competency based Training Need Assessment approaches | Key competencies revealed - initiative, stress management, quality consciousness, conflict management, openness to change, proactive learning ability, and resource orientation. |
| 11 | TNA for Iraqi construction industry. Alkinani (2013) | Construction company that adopts the three levels of TNA conduct a more effective assessment of training outcomes than if relying solely on purely analytical techniques. Based on this, the study was carried out to understand: the role of existing training needs, the analytical processes of Iraqi construction firms, the factors that affect the | The findings were - Iraqi construction companies do not follow systematic approach for TNA, conduct it poorly and based it on only one level, neglecting the other levels of needs assessment. When assessing training needs, individual, job, and organisational needs should all be considered. |

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| | | process of identifying these needs and the impact these have on organizational performance. | |
| 12 | TNA in the Botswana public service: A case study of five state sector ministries Balisi (2014) | Data collected through in-depth interviews, questionnaires and documentary sources. | Study revealed performance gaps and provide implications to bridge their performance gaps. |

The findings of studies included in the Table 4.1 confirm that TNA undertaken in India aimed to make the sector competitive in tune with the global scenario. These studies also suggest that assessing training needs remained a priority issue for the regulators. Training need determination include scanning of work situation and performance discrepancies globally. Most of the TNA are focus on competency building approaches. The competency building is focussed on -upgrading technical efficiency, enhancing competencies, skill levels, integrating training facilities within organizations, aligning manpower's mindset and conducting TNA before deputing employees for training. Balisi (2014) has advocated that training can address every performance gap. Other studies highlight ineffective training being offered to the employees leads to performance gaps. Sarkar (2013) suggested that the organizations must conduct TNA before deputing any employee for training. For this employees should be asked to outline the major factors or reasons that hinder their performance. Further, different study on TNA emphasized on different levels. For example, findings of Sherazi et al (2011) emphasizes on person analysis. Therefore, a review of the studies undertaken on the organization, task, and person analysis specifically is also undertaken to gain in-depth insight of organization analysis, task analysis and person analysis. Table 4.2, 4.3 and 4.4 include the findings of few past studies focusing on organization analysis, task analysis and person analysis.

**Table 4.2: Relevant studies Undertaken on Organization analysis for Training Needs Assessment (1955 – 2015)**

| S No. | Author | Year | Findings |
|---|---|---|---|
| 1 | Fleishman et al. | 1955 | The findings suggest that the climate on the job is a critical component in determining whether the knowledge and skills gained in the training are transferred into the job environment. |
| 2 | McGehee and Thayer | 1961 | Organisational analysis involves determining where within an organisation, training emphases should be placed. The emphasis area includes - organisational objectives, human resources, efficiency indices, and work environment. |
| 3 | Bennis | 1969 | Study revealed that if the top leadership does not clearly understand the goals and strategies of needs assessment the training program may become vulnerable to the natural ups and downs. |
| 4 | Ostroff and Ford | 1989 | Training systems which do not fit into the organization's goals and plans in advance would not make sense. |
| 5 | Poon and Rozhan | 2000 | Surveyed 94 Malaysian organizations. Findings were - TNA conducted by the organisations are largely based on past data, and thus lacked orientation of strategic TNA. The information on the work environment is rarely referred to as one of the sources for TNA data. |
| 6 | Brown | 2002 | Study identified the knowledge, skills and abilities that employees will need for the future, as the organization and their job evolve or change. |
| 7 | Miller and Osinski | 2002 | The needs assessment is the first step in the establishment of a training and development Program. It is used as the foundation for determining instructional objectives, the selection and design of instructional programs, the implementation of the programs and the evaluation of the training provided. These processes form |

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| | | | a continuous cycle which always begins with a needs assessment. |
| 8 | Noe | 2005 | Study revealed that organizational analysis also involves the consideration of strategic company directions of whether managers, peers and employees support training activity. Training is also affected by available resources like - budget, time, expertise for training. |
| 9 | Som and Nam | 2009 | There is evidence of systematic procedures present in the organizations for selecting training participants with involvement of multiple parties. In addition, they also adopted some formal data collection methods and techniques to analyze their training needs, although, the types that they used were probably less sophisticated and involved minimal analysis. |
| 10 | Omar | 2009 | The study on 115 manufacturing companies gathered using quota sampling, effects of commitment towards training objectives and building a supportive climate towards training implementation were found to positively influence organizational training needs (task and people-related skills). |
| 11 | Šimberová | 2009 | The study deals with the two main areas that lay the foundation for learning and training in a company – organizational climate and the system of in-company training. It focuses on the detailed analysis of a company environment (with a special focus on the psycho-social environment, i.e. the culture and company climate) as it relates to the processes of learning and training of its employees. Findings reveal that organizational climate plays a non-substitutable role. Aspects of the organizational climate are more important for employees. |
| 12 | Cekada | 2010 | Through an organizational analysis, data are collected by looking at factors such as absenteeism, safety incidents, lost workdays, turnover rates, grievances, customer complaints or other performance problems. These data are then evaluated to identify where training could improve performance. |

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| 13 | Corazzini et al. | 2010 | The article examined the relationship of contextual and organizational factors to baseline knowledge, work stress, and training outcomes of a dementia care training program. Data from 678 respondents indicated that such factors related to both baseline training needs and training effects over time. Findings advised the long-term care administrators to consider the administrative climate, communication patterns, and the perceived need for training before implementing a training program. |
| 14 | Lancaster & Di Milia | 2014 | Study showed that the importance of organizational support in training and development. They found out that 79.16 % of the respondents of their study indicated that providing high-quality and relevant training programs contributed to the increase of their sense of organization's support for learning. Besides, they reported that the credibility of the instructors and their giving real life cases during the training and the quality of the content increase employees' self-confidences in work life. These factors motivated them to attend in the training programs, anticipated gaining value form the program. In addition, the participants also reported that the alignment between course content and their work contributed positively to their perception of organizational support, because they viewed the process as the organizations' encouragement of the transfer of the new skills. |
| 15 | Arshad et al. | 2015 | In order to conduct a proper TNA, an organization should incorporate all the three variables in TNA such as systematic approach in managing training functions, using various data gathering methods, conducting needs analysis at four different levels and direct involvement of key stakeholder. The study supported the fact whereby almost all organizations considered conducted proper training needs analysis in their respective organization before generating annual training plan. |

Fleishman et al. in 1955 emphasised on the role of work climate in determining whether the knowledge and skills learnt during training will be transferred into the job environment. McGehee and Thayer also underlined the need of analyzing the organizational climate 1961. The role of top leadership is equally important in transferring the learnt skill to job is stressed by Bennis in1969. Ostroff and Ford (1989) advocated on fitting training systems with organizational goals. There is also need of support from managers and peers on training activities, and availability of training resources (Noe, 2005). The commitment towards training objectives and building a supportive climate towards training implementation positively influence organizational training needs (Omar, 2009). Organisational climate plays a non-substitutable role in training need assessment (Šimberová ,2009). Corazzini et al. in 2010 explain the organisational role as: the administrative climate, communication patterns, and the perceived need for training before implementing training programs. Most recently in 2014, Lancaster & Di Milia have stressed the importance of organizational support in training and development which was advocated by Fleishman et al. in 1955. This shows that the aspects of the organizational climate hold critical role even today while determining training needs for the employees.

**Table 4.3: Relevant studies Undertaken on Task Analysis for Training Needs Assessment (1961 – 2015)**

| S. No. | Author | Year | Findings |
|---|---|---|---|
| 1 | McGehee and Thayer | 1961 | Task analysis identifies the nature of the tasks to be performed on the job and the technical knowledge and skills needed to perform these tasks. Therefore, task analysis looks at the job description. It compares the required and actual technical knowledge and skills of employees. |
| 2 | Miller and Osinki | 1961 | Task analysis looks at the technical knowledge and skill requirements for each job and compares these requirements to employees' actual knowledge and skills. Any gap(s) reveals a training need. |

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| 3 | Moore and Dutton | 1978 | Task analysis assesses the competency level required to perform the job, the environment in which the job is performed, the actual activities of the job, and the technical knowledge and skills required to perform the job. |
| 4 | Zemke and Kramlinger | 1982 | As a result of task analysis, a statement of work operations is obtained. These statements clarify which job is comprised of which work operations. Here, the important issue is that these statements describe the task and position, not the employee, individually. |
| 5 | Tannehill & Janeksela | 1984 | Tasks and roles are important, as when roles and tasks are accurately defined, then needed competencies can be identified which can lead to the identification and development of a 'body of knowledge'. |
| 6 | Goldstein | 1993 | The tasks should be described clearly, which have a job summary statements describing the major focus and duties of the job. The development of task statements can be realized by means of interviewing panels, subject matter experts (SMEs). After the development of task statements, it is the sequence for the development of task clusters, which provides an organized way of the information about the tasks, which in turn, helps to the increase of psychological fidelity. |
| 7 | Clifford | 1994 | Study describes the task analysis as "the process of defining the work activities or tasks performed by an employee". |
| 8 | Swanson | 1994 | Study separates task analysis procedures and entitles them by the type of task: procedural (technical) task analysis, knowledge and systems (commercial) task analysis. |
| 9 | Robbins et al. | 1996 | All jobs are either tasks or discrete activities. A task analysis typically follows a needs assessment and narrows the focus to the specific task(s) i.e., it identifies performance opportunity. |
| 10 | Harrison | 1997 | It is a process of identifying the purpose of a job and its component parts, and specifying what must be learned in order to |

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| | | | be effective on work performance. |
| 11 | Rossett | 1999 | Study reveals that task analysis should include not only what a performer does, but also what the performer knows and thinks about task during performance. |
| 12 | Jonassen, Tessmer, and Hannum | 1999 | Task analysis and needs assessment frequently use the same tools and produce similar results, but the purposes are different. Task analysis solves an instructional problem; meaning that training has already been identified as the solution. |
| 13 | Brown | 2002 | Task analysis identifies "tasks that have to be performed; conditions under which tasks are to be performed; how often and when tasks are performed; quantity and quality of performance required; skills required for performing these tasks; and from where and how these skills are best acquired". |
| 14 | Rothwell and Kazanas | 2004 | Task analysis is useful for determining competent performance, determining exactly what a worker must know and do, clarifying conditions for performance, and establishing standards for performance. Practitioners often use task analysis to determine performance objectives for use in developing instruction since task analysis produces goals and objectives, tasks to teach, importance of tasks, task sequence, design, media, assessment and evaluation. |
| 15 | World Bank Institute | 2007 | In completing a needs assessment, the task analysis is a vital tool for mutually informing the diagnosis of needs as well as the detection of potential remedies for improving performance. |
| 16 | Australian Constructors Association | 2015 | This level views training in terms of jobs which together make up an organisation. The purpose is to identify the skills for standard performance and legislative requirements required to complete a task safely and on time. |

McGehee and Thayer (1961) stated that task analysis identifies the nature of the tasks to be performed on the job and the technical knowledge and skills needed to perform them. Miller and

Osinki (1961) have concluded that any gap in the technical knowledge and skill required for a specific job identifies criticality of training. The task analysis is the process of defining the work, activities in performing task by an employee (Zemke & Kramlinger ,1982; Goldstein,1993; Clifford,1994) Task analysis typically follows a needs assessment and narrows the focus to the specific task(s) that is the identified performance opportunity (Robbins et al. 1996).Further as Rosset (1999) proposed that task analysis should include not only what a performer does, but also what the performer knows and thinks about job during performance also affects the performance. But practitioners often use task analysis to determine performance objectives (Rothwell and Kazanas, 2004; World Bank Institute,2007) The Australian Constructors Association, 2015 highlighted importance of task analysis to complete tasks safely and on time.

**Table 4.4: Relevant studies Undertaken on Person Analysis for Training Needs Assessment (1987-2015)**

| S. No. | Author (s) | Year | Findings |
|---|---|---|---|
| 1 | McEnery and McEnery | 1987 | Found that the training needs self-assessed by employees were incongruent with the training needs actually viewed by their supervisors. |
| 2 | Herbert and Doverspike | 1990 | Person analysis measures trainees' personal characteristics, their cognitive abilities in respect of the job, the expectations placed on them (present and future), their feedback on performance and incentives received. |
| 3 | Latham and Wexley | 1991 | Person analysis answers the questions of which people need training and what kinds of training they need. In order to answer such questions, we need to find what specific knowledge, skills and abilities are to be developed for effective performance. |
| 4 | Rossett and Bickham | 1994 | The officers were motivated to develop their skills in dealing with a diverse community because those commercial skills were directly related to their job performance. |
| 5 | Black and | 1996 | Training needs assessment is an important process for the |

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| | Lynch | | development of Human capital. Also each employee's and his/her job has different characteristics, which have a strong impact over his/her attitude and performance and each has different input from training. For this purpose, organization's management analyses their jobs and problems before offering training to their employees. |
| 6 | Warshaner | 1998 | Person analysis looks at an individual employee and 7the job they do to identify level of knowledge, skills, and abilities to ascertain who needs training and what kind of training. |
| 7 | Blanchard & Thacker | 1999 | Person analysis has been largely neglected by diversity trainers, even though attitude survey data, commonly advocated, could be used for this purpose. This neglect may be due to the traditional use of person analysis as a way to determine which individual employees are performing at acceptable levels. |
| 8 | Stone | 2002 | It examines employees' performance and compares it with the established standards, in order to determine the training needs for each employee. Thus, it focuses on how well employees perform their jobs and what skills, abilities and knowledge they use and need to conduct those jobs. |
| 9 | Min. of Panchayati Raj, Govt. of India | 2012 | Person analysis focuses on identifying who should be trained and what training is needed by each individual. The needs of an elected representative would be different from the needs of the Panchayat secretary or any other employee. Even among the elected representatives, these needs would differ from one person to another. In the case of a Panchayat, this means: a) Identifying target groups requiring training; b) Whether each group is homogenous: if not, we need to have groups within groups; c) How each group is positioned with regard to the job description; d) What are the knowledge, skills and attitude needs of each of these groups. |
| 10 | Australian | 2015 | This relates to the needs of individuals within an organisations |

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| | Constructors Association | | and the adequacy of their competency level to perform their job requirements. The main purpose is to identify the knowledge, skills and abilities knowledge that the organisation's employees possess and requires. |

Person analysis answers the questions of which people need training and what kinds of training they need (Herbert and Doverspike, 1990; Latham and Wexley, 1991; Miller & Osinski 1996; Noe,2010; Min. of Panchayati Raj, Govt. of India 2012). Blanchard and Thacker (1999) have opined that person analysis has been largely neglected by diversity trainers, even though attitude survey data, commonly advocated, could have been used for that. Person analysis focuses on how well employees perform their jobs and what skills, abilities and knowledge they use to conduct those jobs (Stone, 2002). Findings of the Constructors Association (2015) are in line with McEnery and McEnery (1987) that the main purpose of person analysis is to identify the skills, knowledge and abilities that the organization possess and requires to reduce performance gaps. Thus, based on the compiled studies in Table 4.4 it can be safely asserted that the person analysis examines employees' performance and compares it with the established organizational standards to determine employees training needs on knowledge skills and abilities.

## 4.3 THEME BASED RESEARCH GAPS

The growth of economy calls for a matching growth for infrastructural facilities where power is a major tool. Invariably power is an indispensable unit of infrastructure, whose growth can never be compromised with. The growth rate for the demand of power in developing economy like India is generally higher than the growth of GDP (Gross Domestic Product). In order to achieve a healthy growth rate of GDP around eight (8) per cent per annum, the growth rate for power is prescribed to be more than 10 per cent per annum. So far power sector has been greatly dependent on budgetary support and external borrowings. Power sector reforms have led to change in the role of engineers from a purely government controlled technical management to a corporatized framework (CEA, 2012). The consumer survey report of a pilot project on capacity building on electricity reforms (2008-2010) confirmed that even after 10 years, only two (2) % of general electricity consumers were aware of reforms and their benefits for them. For this

Restructured Accelerated Power Development and Reform Programs (R-APDRP) were initiated. The World Bank's report (2002) states that RAPDRP initiatives can be successful only if the capacity of the utility staff is improved through appropriate skills and requisite training. Thus, consequent to reforms DISCOMs' need to assess the competency of their front line managers

Based on the literature review, reflections of DISCOMs managers, and independent power sector professionals, the researcher has derived three research themes. The first research theme, 'Post reforms developments in Indian power sector' is derived from chapter one. The second research theme, 'Training needs in power distribution companies are affected by customers' expectations is derived from chapter two. The Third research theme, 'Training needs assessment for analysing the post reform training requirements of frontline managers in power distribution companies' is derived from chapter one. These themes are further reviewed in the Tables 4.5 ,4.6 and 4.7. The research gaps are identified on each theme and are mentioned in the bottom row of representative table.

**Table 4.5: Identifying Research Gap 1**

| S No. | Author | Year | Focus / Dimension / Findings |
|---|---|---|---|
| 1 | Central Electricity Authority | 2015 | Power sector reforms have led to change in the role of senior engineers from a purely government controlled technical management to business management in a corporatized framework. |
| 2 | Min. of Power Govt. of India | 2012 | Rules governing the power sector are changing technological advances in sector. |
| 3 | Banerjee | 2004 | DISCOM customers' dissatisfaction with services. |
| 4 | National Training Policy, India | 2002 | Power sector reforms led to technological challenges in the transitioning phase of power distribution sector which needs training. |
| 5 | NPTI, India | 2012 | Technical knowledge acquired from engineering colleges and polytechnics needs to be supplemented with applied |

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| | | | engineering & managerial skills. Imparting appropriate induction training is therefore necessary to graduate engineers and diploma holders to develop competencies to properly man the machines. |
| 6 | Wright, Geroy | 2010 | Employees' performance is affected by company's corporate culture, organizational structure, job design, performance appraisal systems, power and politics prevailing in the company and the group dynamics. Employees' work environment factors have positive effect on their performance. |
| 7 | Ruet, Joel | 2003 | Political interference in recruitment, promotion, and also in staffs' transfer at old power utilities SEB. Unskilled workers recruited by SEBs have cost implications. |
| 8 | Talbott | 2013 | Management practices at Indian DISCOMs present obstacles to more efficient operation and improved financial performance by distributors. |
| 9 | Mehta, Madhav | 2010 | A plethora of emerging technologies are playing increasingly significant role in distribution system automation and reforms process in India's power sector. |
| Research Gap 1: The reforms in Indian power sector have brought in new technologies are there is a need to find out which are the technologies on which the competency of Front Line Manager's need to be upgraded. | | | |

The reforms in India power sector have brought in the need for a customer-oriented approach. Prior to reforms, the customers' satisfaction was of course important at erstwhile electricity boards and departments but the customers hardly had any choice of choosing their electricity supplier. However, in the ongoing deregulated environment, customers can not only choose their electricity supplier but also invest in their own power generating equipment to bypass the grid in whole or part (Vishwakarma and Dwivedi, 2016). When it comes to translating a company's strategy into results, there is no denying the importance of first level leaders-those who manage others who do not manage others. First level leaders are most responsible for a firm's day-to-day relationships with customers and the bulk of employees (Priestland & Hanig, 2005). Thus, the

relevant studies are reviewed and presented in Table 4.5 to identify the research gap in identifying the customer services required at DISCOMs and corresponding upgradation of frontline managers' skills after reforms.

**Table 4.6: Identifying Research Gap 2**

| S. No. | Author | Year | Focus / Dimensions / Findings |
|---|---|---|---|
| 1 | Min. of Power Govt. of India | 2012 | Power sector reforms have led to change in the role of senior engineers from a purely government controlled technical management to business management in a corporatized framework. |
| 2 | Trehan | 2009 | Cordial relationship needs to be maintained with the customers. |
| 3 | Trehan | 2009 | Most DISCOMs are either state entities operating in an unregulated or newly regulated environment. |
| 4 | Infosys | 2008 | People dislike paying for a service unless they believe it has value and meets their needs and expectations. Customer dissatisfaction is an outcome of customer care orientation common among firms operating in competitive markets. |
| 5 | Okaro | 2007 | Utility staff and its customers are effectively at war with one another. |
| 6 | Smith and Wood | 2004 | There are challenges in developing customer service benchmarks for South Asian DISCOMs. |
| 7 | Smith and Wood | 2004 | Frontline employees play an important role being an interface between the power utility and customers. |
| 8 | Padmanabhan and Sarkar | 2001 | Government must maintain its will to see a commercially self-sufficient power sector. |
| Research Gap 2: The reforms in Indian power sector have emphasized power distribution companies to take the customer oriented commercial approach. There a need for study to find out on which customer services the front line managers need up gradation. | | | |

The reforms in India power sector have brought in changes in the technical operations and customer services for the front line managers of the power distribution companies as per literature reviewed under Theme 1 and Theme 2. There is a need for study to find out how these power distribution companies are doing training needs assessment of the front line managers after reforms. Thus, the relevant studies are reviewed and presented in Table 4.6 to identify the research gap in identifying training needs

**Table 4.7: Identifying Research Gap 3**

| S. No. | Author | Year | Focus / Dimensions / Findings |
|---|---|---|---|
| 1 | Min. of Power, Govt. of India | 2012 | DISCOMs' staff is not trained in new technologies and practices resulting in performance deficiency and reduced customer satisfaction. |
| 2 | Sony and Mekoth | 2012 | Frontline staff plays a crucial and important role at power distribution companies. Frontline staff's job in service sector is challenging. |
| 3 | Yadav | 2009 | To prepare the frontline managers to better coordination with public representatives. |
| 4 | Srivastava | 2002 | Many new technologies have emerged in the power distribution sector. Working practices have changed and can be experienced at DISCOMs. |
| 5 | Ilic et al | 2003 | Current scenario has brought challenges to utility engineers to keep pace with technologies and economic challenges to be able to compete in market. |
| 6 | Seetha | 2012 | Reforms have resulted in training needs arising from the establishment of independent regulatory commissions, changes in work orientation, entry of multi-disciplinary staff. …Training is mandatory for all the personnel engaged in O&M of generation, transmission and distribution systems of electricity. Insufficient training resulting in low performance of managers. |

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| 7 | Chawla | 2012 | Growing concern over environmental degradation and depletion of conventional energy sources has made the task of electricity challenging. Quality standard of manpower is therefore becoming increasingly essential. |
| 9 | Human Resource Management International Digest | 2011 | NDPL's experience highlights the need for HR to move beyond its traditional training and development role and to engage in the internal marketing of organizational-change initiatives to establish a climate of trust and to calm employees' fears about the possible adverse impacts of change. Lack of trainers, resources, infrastructure, and inadequate attention are major constraints at old SEBs in training their manpower. |
| Research gap 3: The job-description of a middle manager includes appraising the performance and determining training needs of frontline managers working under them. There is a need to finds the reasons for performance gaps by analysing training needs of frontline managers at organisational level, Task level, and person level in the power distribution companies. Therefore, there is a need to find out if there any significant difference of opinion between middle managers and frontline managers with regard to organisation task person analysis for TNA. | | | |

## 4.4 CRITICAL ANALYSIS OF RESEARCH GAPS

The literature review illustrates that the reforms in Indian power sector have introduced new technologies and practices. To be at par with the modern technologies and practices, the DISCOMs need to constantly upgrade the capabilities and the skill sets of its frontline managers since they practice most of the technologies and practices. The reforms in Indian power sector have brought in new technologies at operational levels as well as services level. Adoption of SMART technologies, SMART grid, SMART metering, SMART billing, Modern SCADA, AMR, PLCC, and IT tools are the few to mention.

The reforms in Indian power sector have also emphasized power distribution companies to take the consumer oriented commercial approach. Use of IT applications to facilitate customers to

create their online accounts, online tracking of consumption, online access to bill, online payment, online complain lodging, online tracking status of grievance redressal are the few customer care practices adopted lately by DISCOMs. The frontline managers are the ones who practice most of these newly introduced technologies and practices in DISCOMs. They additionally interact with all categories of customers on a daily basis. The literature review illustrates that there is a lack of research on the areas of commercial practices and customer services in which the skills of DISCOMs' frontline managers need to be upgraded. In accordance with the research gaps surfaced from the literature reviews, it is therefore very essential to find out which are the technologies and customer services practices on which the competency of DISCOMs' frontline managers need to be upgraded. Exploring these gaps will enable DISCOMs to ensure efficient operations and extend improved services to their customers of different categories.

The literature review illustrates that the training needs assessment plays an important role in identifying the competencies that an individual must have to perform a specific job. The frontline managers at DISCOMs report to the middle managers in the company. The middle managers are the immediate superiors, mentors, appraisers, and reprimanding authority for front line managers. Middle managers are the ones who determine the training needs of frontline managers working under them. There is, therefore, a need to find the effect of analysing training needs of frontline managers at organisational-task-person levels in the power distribution companies. Any significant difference in their opinion will be a school of thought for hindered performance and corresponding need of training. Thus there is a need to find out is there any significant difference of opinion between middle managers and frontline managers with regard to organisation-task-person analysis for TNA at DISCOMs under study.

## 4.5 SUMMARY

1. On the basis of the theme based analysis three research gaps are identified. The three research identified research gaps are –

i. The reforms in Indian power sector have brought in new technologies, thus, there is a need to find out which are the technologies on which the competency of frontline Managers need to be upgraded.

ii. The reforms in Indian power sector have emphasized power distribution companies to take the customer oriented commercial approach. There a need for study to find out on which customer services the front line managers need up gradation.

iii. The job-description of middle managers includes appraising the performance and determining training needs of frontline managers working under them. There is a need to find reasons for performance gaps by analysing training needs of frontline managers at O-T-P level in the power distribution companies. Thus, there is a need to find out if there any significant difference of opinion between middle managers and frontline managers with regard to organisation-task-person analysis for TNA.

2. The identified research gaps further form base for the research problem, research questions and research objectives.

3. The next chapter is on methodology of research for the present study.