CHAPTER 6
DATA ANALYSIS AND FINDINGS

ABSTRACT

This chapter outlines the demographic profile of the respondents. The responses of the middle and frontline manager were collected on the organization-task-person items for the OTP analysis. The findings are answering the research questions which are further discussed as per the research objectives. The discussion on the findings is made in the light of relevant past studies. The observed similarity of past study is discussed critically in line with the findings of the present study.

6.1   INTRODUCTION

The training need assessment of the front line managers in the power distribution company is part of the job description of their middle managers as it is the middle manager who allot field task to the front line manager. The middle manager determine training needs of frontline managers based upon their performance on the varied duties and roles allotted to them over a period of time within an organisation. The competencies in performing these tasks (technical and commercial) are the standardised requirement of an individual, comprising of his knowledge, skills and abilities which are necessary for performing a specific job adequately as well as improve the overall individual performance within an organisational set up. The recent studies have highlighted the need of appropriate training need assessment in power distribution companies. The formation of power distribution companies (DISCOMs) in 1991 has brought in many technological upgradations in power industry. This privatisation has also called for competition in the Indian power sector, leading to higher customer expectations from these power distribution companies. This demand for enhancement and upgradation of skills for the existing workforce (front line managers) as well as ensuring that the skills supplied by training are sufficient and relevant to developing power industry requirements. Though, the power industry has realised the importance of frontline manager's commercial skills in relation to customers. This study explores the skills critical to the success of the frontline managers in the

power sector. Four power distribution companies in central India had been considered for conducting this study. The core focus of this study was to carry out an empirical investigation on determining training needs of the frontline manager by the middle manager at the organization-task-person level. The organization level is critical to successful strategy implementation within an organisation. The task level is important to understand which technical skills and commercial services are more required and critical for customer satisfaction. The person level brings insight on the knowledge skills and abilities of frontline manager to perform these tasks. Therefore, their training need determination at organisation-task-person level has got a significant impact on the overall performance of an organisation.

6.2   DEMOGRAPHIC PROFILE OF RESPONDENTS

The sample size of the present study includes 78 respondents at middle management level and 282 respondents at frontline management level (Table 5.8). The information on the respondent middle managers' demographic profile on – age, gender, qualification; name of the power distribution company where the respondent is presently employed; respondent's total work experience, and his total service at power distribution company is presented in Table 6.1

Table 6.1: Middle Managers' Demographic Profile
(N=78)

Detail	No. of Responses	Percentage
Age		
41 – 45	23	30
46 – 50	33	42
51 – 55	4	5
56 – 60	18	23
Gender		
Male	73	94
Female	05	06
Qualification		

Below Graduate	3	4
Graduate	51	65
Master and above	24	31
Company		
MP ERPDC	31	40
MP WRPDC	9	12
MP CRPDC	11	14
CS PDC	21	27
Others (Power Trading / Management Company)	6	7
Total Work Experience (years)		
$21 - 25$	46	59
$26 - 30$	19	24
Above 30	13	17
Total Experience in DISCOM (years)		
$1 - 10$	28	36
$11 - 20$	50	64

The above table (6.1) confirms the fair and equal representation of respondents in each category of response. In order to have a diverse pool of opinion and avoiding gender bias efforts were made to collect the responses of female middle managers. Due to less number of employed female middle managers at DISCOMs and their non-availability, the number of responses collected from them is lesser in comparison to the responses collected from their male counterparts.

The information on the respondent frontline managers' demographic profile on their – gender, age and qualification; name of the power distribution company where the respondent is presently employed; respondent's total work experience and his total service at power distribution company is presented in Table 6.2

Table 6.2: Frontline Managers' Demographic Profile

(N=282)

Detail	No. of Responses	Percentage
Age		
41 – 45	178	63
46 – 50	104	37
Gender		
Male	230	82
Female	52	18
Qualification		
Below Graduate	157	56
Graduate	114	40
Master and above	11	4
Company		
MP ERPDC	62	22
MP CRPDC	85	30
MP WRPDC	79	28
CS PDC	56	20
Total Work Experience (years)		
16 – 20	164	58
21 – 25	118	42
Total Experience in DISCOM (years)		
1 – 10	174	62
11 – 20	108	38

The above Table (6.2) confirms the fair and equal representation of respondent frontline managers in each category of responses. In order to have a diverse pool of opinion and avoiding gender bias efforts were made to collect the responses of female frontline managers. Due to less number of employed female frontline managers at DISCOMs and their non-availability, the

number of responses collected from them is lesser in comparison to the responses collected from their male counterparts.

6.3 DATA ANALYSIS AND FINDINGS

The analysis of data for 10 organisation items, 32 task items, and 31 person items has been undertaken separately. Reference of relevant past studies on data analysis tool has been added. The centralised hypothesis is tested using Chi-Square test and results are evaluated using SPSS statistical software. Results for each item have been interpreted separately under organization analysis, task analysis and person analysis. The research questions have been answered separately in the findings of organization analysis, task analysis and person analysis. The research objectives have been discussed than quoting references of relevant past studies to present findings.

6.3.1 Analysing Organisation items

Considering the objectives of the research regarding organisation analysis a centralised hypothesis is developed and tested for determining training needs of the frontline managers by their immediate superiors, the middle managers at organisation level

Null Hypothesis (H$_0$): *There is no significant difference of opinion between Middle Managers and Frontline Managers with regard to organisational analysis for TNA.*

Alternate Hypothesis (H$_1$): *There is a significant difference of opinion between Middle Managers and Frontline Managers with regard to organisational analysis for TNA.*

Hypothesis is tested applying Chi-Square test using SPSS. Few relevant past studies using Chi square for past studies are listed in Table 6.3

Table 6.3: Relevant studies using Chi-Square test for Organisation Analysis

Author	Year	Detail
Spence	1978	A Case Study Analysis of Organisational Communication Effectiveness Between User-Managers and Information Service Department Personnel.
Sinha	2013	A research work on Employee Satisfaction measurement with special reference to KRIBHCO, Surat.
Madankumar and Arun	2013	A Study on Effectiveness of Training and Development in Rabco Huat Wood Pvt. Ltd.
Srivastav and Das	2015	A Study on Employees Attitude Towards The Organization and Job Satisfaction

The Chi-square value obtained on different organizational items is compiled in Table 6.4, these were compared with the critical value as per standard Chi-Square Distribution Table (see Appendices) for their respective degrees of freedom.

Table 6.4: Chi-Square Test (Organizational Items)

(N=360)

Organizational items (O Items)		Chi-Square Test Results			Null Hypothesis status
		Calculated value X^2	Critical (Table value)	Degrees of freedom	
O1	Support from superiors to work effectively despite changes in co-workers, settings, and environment.	6.205	7.879	1	Accepted
O2	Antagonize by colleagues in learning / using new skills and using them at workplace.	19.564	14.860	4	Rejected
O3	Management has a clear charter	29.308	10.597	2	Rejected

	regarding people who need training and kind of training provided.				
O4	Trainings match groups' / individuals' job demands.	7.385	7.879	1	Accepted
O5	Learned skills often not supported at workplace or given enough time to use them.	56.256	12.838	3	Rejected
O6	Frontline managers are given or get resources and tasks to enable them to use training.	25.590	12.838	3	Rejected
O7	Training is generally conducted in a well-planned fashion with enough budget allocation.	28.615	10.597	2	Rejected
O8	Networking possibilities to interact and share learned skills across DISCOM.	54.308	12.838	3	Rejected
O9	Pressures from political groups to change your work related decisions.	27.897	14.860	4	Rejected
O10	Pressures from union / colleagues to change your work related decisions	26.718	12.838	3	Rejected

(Conducted at 95% confidence level at degree of freedom specified in the table)

Interpretation

The results of Chi-Square test show that null hypothesis is accepted for organisational item O1 (Support from superiors to work effectively despite changes in co-workers, settings, and environment) and O4 (Trainings match group / individual job demands). While, it is rejected for O2 (Antagonize by colleagues and superiors in learning / using new skills and using them at workplace), O3 (Management has a clear charter regarding people who need training and kind of training provided), O5 (Learned skills often not supported at workplace or given enough time to use them), O6 (Frontline managers are given or get resources and tasks to enable them to use training), O7 (Training is generally conducted in a well-planned fashion with enough budget

allocation), O8 (Networking possibilities to interact & share learned skills across DISCOM), O9 (Pressures from political groups to change your work related decisions), and O10 (Pressures from union / colleagues to change your work related decisions) suggesting that at the DISCOMs under study training is a systematic process. The acceptance of O4 shows the presence of training in DISCOMs under study. The middle managers communicate the training needs of the FLMs to the top management suggesting presence of training needs assessment process; and training as a support activity for FLMs' competence building at DISCOMs under study. However, the null hypothesis is rejected for O2, O3, O5, O6, O7, O8, O9, and O10; this will further reveal the characteristics of training and training needs assessment at DISCOMs under study. This is further explored in the discussion on the findings of organisational analysis.

Findings

The findings on organisational items are now explained as per research question, '*What are the organisational level factors which affect frontline managers' training at DISCOMs in central India?*' (RQ1). The findings in line with research question on each organisation item are as follows:

O1 (*Support from superiors to work effectively despite changes in co-workers, settings, and environment*): The null hypothesis is accepted. This suggests that top management and middle managers have been supportive to FLMs. The organisation provides work environment for effective performance of the employee even if the co-workers change, or there is any change in the workplace setting. The FLMs work in an amiable organisation environment.

O2 (*Antagonize by colleagues in learning / using new skills and using them at workplace*): The null hypothesis is rejected. This indicates that the FLMs after training are facing difficulty in transferring the learnt skills at their work place due to lack of support by their colleagues.

O3 (*Management has a clear charter regarding people who need training and kind of training provided.*): The null hypothesis is rejected. This shows that the DISCOMs under study do not follow a clear charter for determining training needs of their FLMs.

O4 (*Trainings match groups' / individuals' job demands.*): The null hypothesis is accepted. This suggests that the middle managers communicate the training needs of the FLMs to the top management, suggesting presence of training needs assessment process; and training as a support activity for frontline managers' competence building at DISCOMs under study.

O5 (*Learned skills are often not supported at workplace or given enough time to use them*): The null hypothesis is rejected. This shows that FLMs at DISCOMs under study do not get support and time to use the learned skills at their workplace.

O6 (*Frontline managers are given or get resources and tasks to enable them to use training*): The null hypothesis is rejected. The shows that FLMs at DISCOMs under study do not get resources and tasks to be able to utilise the skills learnt during their training.

O7 (*Training is generally conducted in a well-planned fashion with enough budget allocation*): The null hypothesis is rejected. This shows that the DISCOMs under study do not conduct training for their FLMs in a well-planned fashion and also much consideration is given on expenditure for training. Therefore, suggesting high expectation on the return on investment from training and cost of training.

O8 (*Networking possibilities to interact and share learned skills across DISCOMs*): The null hypothesis is rejected. The shows that the DISCOMs under study do not provide networking possibilities to their FLMs to interact and share learned skills across DISCOM. Therefore, suggesting absence of mentoring the colleagues and train the trainer practices. Further this also indicates lack of trainees' motivation in terms of recognition and reward.

O9 (*Pressures from political groups to change work related decisions*): The null hypothesis is rejected. The shows that pressure from political groups has an influence on the work related decisions of frontline managers at the DISCOMs under study.

O10 (*Pressures from union / colleagues to change work related decisions*): The null hypothesis is rejected. This shows that pressure from union / colleagues has an influence on the work related decisions of frontline managers at the DISCOMs under study.

Discussion

The discussion on the organisational items is presented here as per the research objective, *'To analyse the training needs of DISCOMs' frontline managers at organisational level'* (RO1).

The findings can be summarised as follows: Researcher can state that the power distribution companies under study undertake training need assessment for training. The training needs for front line managers are passed to the top management by middle managers; indicating, follow-up of the hierarchical processes. Hence, these DISCOMs are concerned with competency building of frontline managers and are aware that training needs determination has an effect on performance. The organisational level factors, which further affect frontline managers' training need assessment at DISCOMs in central India are; i) the frontline managers after training are facing difficulty in transferring the learnt skills at their work place due to lack of support by their colleagues; ii) the power distribution companies under study do not follow a clear charter for determining training needs of their front line managers; iii) frontline managers at power distribution companies under study do not get support and time to use the learned skills at their workplace; iv) frontline managers at power distribution companies under study do not get resources and tasks to be able to utilise the skills learnt during their training; v) the power distribution companies under study do not conduct training for their frontline managers in a well-planned fashion and also much consideration is given on expenditure incurred on training. Therefore, suggesting high expectations on the return on investment from training and cost of training; vi) the power distribution companies under study do not provide networking possibilities to their frontline managers to interact and share learned skills across DISCOMs. Therefore, suggesting absence of mentoring the colleagues and train the trainer practices. Further, this also indicates lack of trainee motivation in terms of recognition and rewards; vii) Pressure from political groups, union and colleagues has an influence on the work related decisions on frontline managers at the DISCOMs under study.

Analysing the summarized findings with regard to research objective, RO1:

The organisational analysis findings as above suggest; that, the training needs for front line managers are passed to the top management by middle managers. This indicates follow-up of hierarchical processes. This finding is in line with the "Blue Print for Power Sector Development" - Ministry of Power, Govt. of India 2001 report which emphasises on- 1) Upgrading technical efficiency; 2) aligning skills and mind set of power professionals to the changing requirements; 3) and integration of training facilities available in the sector to optimize their utilization. It is the third point of this report, where the findings on organisational analysis at power distribution companies under study are inconsistent. These findings include – firstly, lack of support by colleagues and lack of required resources to use learned skills. There is always a need of support from managers and peers on training activities, and availability of training resources in the organisation (Noe, 2005). The second finding that the power distribution companies under study do not follow a clear charter for determining training needs of their front line managers. The study of McGehee and Thayer in 1961 focuses on identifying who should be trained and what training is needed by individuals in the organisation. The findings on above few points (point number - iii, iv, v, and vi) include inadequate resources and tasks to utilise the skills learnt, unplanned training with inadequate budget, lack of opportunities to use learned skills, and lack of networking possibilities. Omar (1999) has also concluded that commitment towards training objectives and building a supportive climate towards training implementation positively influence outcome of training at organizations. Corazzini et al. in 2010 have also described 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 also stressed the importance of organizational support in training and development. These findings confirm that the aspects of the organizational work environment hold critical role while determining training needs for the employees. The findings on point number- vii and viii, reveal that pressure from within and outside the company influences the work related decisions of frontline managers. This finding corresponds with the recommendations made by industry observers to develop mechanisms to insulate both the regulator and the utility from daily political pressures. The latter is important so the utility managers can base decisions on long term

financial, economic, and engineering considerations (Berg, 2013). It is very important that the top management plays the leadership role for transferring the learnt skill to job (Bennis, 1969). Consequently, the DISCOMs' management need to further their role in determining training needs by not only sanctioning the conduct of training but taking feedback of these training in terms of performance and return on organisational investment. The findings also suggest that DISCOMs under study are concerned with competency building of frontline managers. They are aware that training needs determination has an effect on performance but lack strategic TNA as for this the training system should be fitted with organizational goals (Ostroff and Ford, 1989), which is found missing in power distribution companies under study.

The deliberation on the overall findings of organisational analysis shows that the power distribution companies under study undertake training need assessment for training. The training needs for front line managers are passed to the top management by middle managers; indicating, follow-up of the hierarchical processes. Hence, these DISCOMs are concerned with competency building of frontline managers and are aware that training needs determination has an effect on performance. However, the learnt skills are not being effectively transformed at the work place due to few work environment reasons which are internal and external to the organisation. The internal reasons are; less-supporting work environment, lack of resources, mismatch of present tasks with learnt skills, less support from colleagues', weak intra-organisational networking. The external reasons are; pressures on the work related decisions by the political groups and trade union. Therefore, the researcher can state that merely conducting training needs assessment is not sufficient the organisation should turn up to take the strategic training needs assessment i.e the training system should be fitted with organizational goals.

6.3.2 Analysing Task items

Considering the objectives of the research regarding task analysis, a centralised hypothesis is developed and tested for determining training needs of the frontline managers by their immediate superiors, the middle managers at organisation level

Null Hypothesis (H_0): *There is no significant difference of opinion between Middle Managers and Frontline Managers with regard to task analysis for TNA.*

Alternate Hypothesis (H$_1$): *There is a significant difference of opinion between Middle Managers and Frontline Managers with regard to task analysis for TNA.*

Hypothesis is tested applying Chi-Square test using SPSS. Few relevant past studies using Chi square for past studies are listed in Table 6.5

Table 6.5: Relevant studies using Chi-Square test for Task Analysis

Author	Year	Study
Feldon et al.	2010	Translating Expertise into Effective Instruction: The Impacts of Cognitive Task Analysis (CTA) on Lab Report Quality and Student Retention in the Biological Sciences
Babiqued et al.	2014	Cognitive training with casual video games: Points to consider
Karikari et al.	2015	The Role of Human Resource Information System in the Process of Manpower Activities
Shaukat and Ghafoor	2016	The Impact of Employees Training Program on SME's performance.

Task items (Technical): The Chi-square value obtained on different task items (technical) is compiled in Table 6.6; these were compared with the critical value as per standard Chi-Square Distribution Table (see Appendices) for their respective degrees of freedom.

Table 6.6: Chi-Square Test (Task Items – Technical)

(N=360)

Task items		Chi-Square Test Results			Null Hypothesis status
		Calculated value X^2	Critical (Table value)	Degrees of freedom	
T1	Assessing change in customers' monthly	10.615	12.838	3	Accepted

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	electricity consumption in the last few years.				
T2	Assessing increase in customers' expectations for services from DISCOM in last few years.	72.128	14.860	4	Rejected
T3	Advising and educating customers on the different categories and slabs of electricity tariffs.	16.487	14.860	4	Rejected
T4	Advising and educating customers on the penalties for indulging in theft of electricity.	12.744	14.860	4	Accepted
T5	Advising customers on the disadvantages of having low power factor in their installation.	19.949	14.860	4	Rejected
T6	Advising customers on the disadvantages of having unbalanced load in their installation.	16.000	14.860	4	Rejected
T7	Advising customers on the benefits of using energy efficient appliances in their installation.	14.949	14.860	4	Rejected
T8	Advising customers on their electrical installation and any shortcomings in that.	15.513	14.860	4	Rejected
T9	Educating customers on the safety issues related to their installation.	12.282	14.860	4	Accepted
T10	Advising customers on energy efficiency measures in their installations.	16.974	14.860	4	Rejected
T11	Educating customers on the role of Bureau of Energy Efficiency and other Government schemes for them.	9.051	14.860	4	Accepted

T12	Being equally commercial in their approaches as they are technical at work.	10.205	14.860	4	Accepted
T13	Put enough efforts to increase DISCOM's revenue.	9.051	14.860	4	Accepted
T14	Possess skills to promptly resolve customers' services and bills related grievances.	13.923	14.860	4	Accepted
T15	Put enough efforts to reduce supply outage in their area.	9.590	14.860	4	Accepted
T16	Capable enough to identify customers' issues and conclude as much as possible from info available.	11.872	14.860	4	Accepted

Interpretation

The results of Chi-Square test show that null hypothesis is accepted for nine technical items of task analysis. These items are; T1 (Assessing change in customers' monthly electricity consumption in the last few years), T4 (Advising and educating customers on the penalties for indulging in theft of electricity), T9 (Educating customers on the safety issues related to their installation), T11 (Educating customers on the role of Bureau of Energy Efficiency and other Government schemes for them), T12 (Being equally commercial in their approaches as they are technical at work), T13 (Put enough efforts to increase DISCOM's revenue), T14 (Possess skills to promptly resolve customers' services and bills related grievances), T15 (Put enough efforts to reduce supply outage in their area), and T16 (Capable enough to identify customers' issues and conclude as much as possible from info available). The null hypothesis is rejected for the seven technical task items i.e. T2, T3, T5, T6, T7, T8, and T10. This shows that there is inconsistency on following points; a) the frontline managers at DISCOMs under study do not assess future customers' expectations i.e. they do not try to anticipate their customer's needs in advance; b) the frontline managers do not advise their customers on different categories and slabs of electricity tariff; c) the front line managers do not advise their customers on the importance of

low power factor in the installation; d) the frontline managers do not advise their customers on the disadvantages of having unbalanced load in their installation; e) the front line managers do not advise their customers on the benefits of using energy efficient appliances in their installation.

Findings

The findings on technical task items are presented as per research question, '*What are the task level factors which affect frontline managers' training at DISCOMs in central India?*' (RQ2). These findings are as follows:

T1 (*Assessing change in customers' monthly electricity consumption in the last few years*): The null hypothesis is accepted. This shows that frontline managers consider this task as a part of their job component. They consider it important, and have been officially asked to do it.

T2 (*Assessing increase in customers' expectations for services from DISCOM in last few years*): The null hypothesis is rejected. This shows that the frontline managers do not consider this task a part of their job component or they were never officially asked to do it.

T3 (*Advising and educating customers on the different categories and slabs of electricity tariffs*): The null hypothesis is rejected. This shows that the frontline managers do not consider this task as a part of their job component or they were never officially asked to do it.

T4 *(Advising and educating customers on the penalties for indulging in theft of electricity)*: The null hypothesis is accepted. This shows that frontline managers consider this task as a part of their job component. They consider it important, and have been officially asked to do it.

T5 (*Advising customers on the disadvantages of having low power factor in their installation*): The null hypothesis is rejected. This shows that the frontline managers do not consider this task as a part of their job component or they were never officially asked to do it.

T6 (*Advising customers on the disadvantages of having unbalanced load in their installation*): The null hypothesis is rejected. This shows that the frontline managers do not consider this task a part of their job component or they were never officially asked to do it.

T7 (*Advising customers on the benefits of using energy efficient appliances in their installation*): The null hypothesis is rejected. This shows that the frontline managers do not consider this task a part of their job component or they were never officially asked to do it.

T8 (*Advising customers on their electrical installation and any shortcomings in that*): The null hypothesis is rejected. This shows that the frontline managers do not consider this task a part of their job component or they were never officially asked to do it.

T9 (*Educating customers on the safety issues related to their installation*): The null hypothesis is accepted. This shows that frontline managers consider this task as a part of their job component. They consider it important, and have been officially asked to do it.

T10 (*Advising customers on energy efficiency measures in their installations*): The null hypothesis is rejected. This shows that the frontline managers do not consider this task a part of their job component or they were never officially asked to do it.

T11 (*Educating customers on the role of Bureau of Energy Efficiency and other Government schemes for them*): The null hypothesis is accepted. This shows that frontline managers consider this task as a part of their job component. They consider it important, and have been officially asked to do it.

T12 (*Being equally commercial in their approaches as they are technical at work*): The null hypothesis is accepted. This shows that frontline managers consider this task as a part of their job component. They consider it important, and have been officially asked to do it.

T13 (*Put enough efforts to increase DISCOM's revenue*): The null hypothesis is accepted. This shows that frontline managers consider this task as a part of their job component. They consider it important, and have been officially asked to do it.

T14 (*Possess skills to promptly resolve customers' services and bills related grievances.*): The null hypothesis is accepted. This shows that frontline managers consider this task as a part of their job component. They consider it important, and have been officially asked to do it.

T15 (*Put enough efforts to reduce supply outage in their area.*): The null hypothesis is accepted. This shows that frontline managers consider this task as a part of their job component. They consider it important, and have been officially asked to do it.

T16 (*Capable enough to identify customers' issues and conclude as much as possible from info available.*): The null hypothesis is accepted. This shows that frontline managers consider this task as a part of their job component. They consider it important, and have been officially asked to do it.

Task items (Commercial): The Chi-square value obtained on different task items (commercial) is compiled in Table 6.7; these were compared with the critical value as per standard Chi-Square Distribution Table (see Appendices) for their respective degrees of freedom.

Table 6.7: Chi-Square Test Results for Task Items (Commercial)
(N=360)

S No.	Task items	Chi-Square Test Results			Null Hypothesis status
		Calculated value X^2	Critical (Table value)	Degrees of freedom	
T17	Advising and educating customers on the responsibilities of an electricity customer.	24.308	14.860	4	Rejected

T18	Being sensitive in dealing with customers and refraining from any kind of unpleasing behaviour.	6.103	14.860	4	Accepted
T19	Putting an effort to improve the lethargic attitude of your staff to ensure quality services to customers.	10.205	14.860	4	Accepted
T20	Understanding customers' needs and expectations.	11.744	14.860	4	Accepted
T21	Demonstrating trust and empathy in listening to customers' facts and understand feelings.	19.821	14.860	4	Rejected
T22	Being adequately motivated and professional to make DISCOM progress and serve customers better.	11.103	14.860	4	Accepted
T23	Reflect creativity in your work in understanding and resolving customers' problems.	12.641	14.860	4	Accepted
T24	Being capable of positively influencing customers to be a loyal and responsible customer of DISCOM.	23.282	14.860	4	Rejected
T25	Have unbiased approach towards customers and show genuine interest in them.	9.821	14.860	4	Accepted
T26	Track customers' pending grievances / issues and follow up enough to address them.	12.154	14.860	4	Accepted
T27	Good communication and public relations skills are mandatory to perform FLMs' job at DISCOMs.	21.103	14.860	4	Rejected
T28	Being cost conscious enough in your work and providing services to	10.462	14.860	4	Accepted

	customers.				
T29	Capable to develop deep collaborative relations between DISCOM and customers to create a win-win situation.	18.538	14.860	4	Rejected
T30	Try to build DISCOM a customer friendly company with good image in general public.	28.026	14.860	4	Rejected
T31	Have team spirit and fellowship at their workplace to serve customers better.	50.333	14.860	4	Rejected
T32	Thorough and precise in approaching DISCOM's work and personal activities.	26.103	14.860	4	Rejected

Interpretation

The results of Chi-Square test show that null hypothesis is accepted for eight commercial items of task analysis. These items are – T18 (Being sensitive in dealing with customers and refraining from any kind of unpleasing behaviour.), T19 (Putting an effort to improve the lethargic attitude of your staff to ensure quality services to customers.), T20 (Understanding customers' needs and expectations.), T22 (Being adequately motivated and professional to make DISCOM progress and serve customers better.), T23 (Reflect creativity in your work in understanding and resolving customers' problems.), T25 (Have unbiased approach towards customers and show genuine interest in them.), T26 (Track customers' pending grievances / issues and follow up enough to address them.), and T28 (Being cost conscious enough in your work and providing services to customers.). Frontline managers consider these tasks as part of their job component. The null hypothesis is rejected for the eight commercial task items - The null hypothesis is rejected for T17, T21, T24, T27, T29, T30, T31, and T32.

This shows that there is inconsistency on following points- a) the frontline managers at DISCOMs under study do not assess future customers' expectations i.e. they do not try to

anticipate their customer's needs in terms of required services; b) the front line manager do not advise their customers on different categories and slabs of electricity tariff; c) the front line manager do not motivate loyalty in customers they do not influence them to be responsible customers; d) the front line manager do not find communication an public relation skills mandatory for to fulfil the roles and responsibilities of their present job; e) the front line manager do not develop deep collaborative relations between power distribution company and its customers to create a win-win situation; f) the front line manager do not try to build their company image as customer friendly company; g) the front line manager do not hold team spirit and fellowship at their workplace to serve customers better; h) the front line manager lack thorough and precise approach to work and personal activities.

Findings

T17 (*Advising and educating customers on the responsibilities of an electricity customer*): The null hypothesis is rejected. This shows that the frontline managers at DISCOMs under study do not adequately advice and educate their customers on the responsibilities of electricity customers.

T18 (*Being sensitive in dealing with customers and refraining from any kind of unpleasing behaviour*): The null hypothesis is accepted. This shows that frontline managers consider it important, and have been officially asked to refrain from any unpleasing behaviour by their middle manager or superior.

T19 (*Putting an effort to improve the lethargic attitude of your staff to ensure quality services to customers.*): The null hypothesis is accepted. This shows that frontline managers have been officially asked to ensure that their staff delivers quality customer service. This pressure can be better understood from the findings on customer expectations in technical task item T14.

T20 *(Understanding customers' needs and expectations.)*: The null hypothesis is accepted. This shows that frontline managers consider this task as a part of their job description. The findings of technical task items (T2) in light of T20 suggest that the power distribution company has given

this task to the front line managers to find the future expectations of their customer as these front line managers are in field as an interface between the customer and the power distribution company.

T21 (*Demonstrating trust and empathy in listening to customers' facts and understand feelings.*): The null hypothesis is rejected. This shows that the front line managers do not demonstrate trust and empathy in listening to customers; they do not try to understand their feelings.

T22 (*Being adequately motivated and professional to make DISCOM progress and serve customers better.*): The null hypothesis is accepted. This shows that organisation has motivated their front line manager to serve customers better. The organisation must have better services to customer as part of their organisational policy.

T23 (*Reflect creativity in your work in understanding and resolving customers' problems.*): The null hypothesis is accepted. This shows that frontline managers while redressing customer grievances many a time find amicable solutions. This finding prerequisite training these field managers on what to communicate, and how to communicate in order to develop image of their company as customer friendly and customer service oriented company.

T24 (*Being capable of positively influencing customers to be a loyal and responsible customer of DISCOM.*): The null hypothesis is rejected. This shows that the front line managers do not motivate loyalty in customers they do not influence them to be responsible customers.

T25 (*Have unbiased approach towards customers and show genuine interest in them.*): The null hypothesis is accepted. This shows that frontline managers have been communicated by their officials to develop image of their company as customer friendly and customer service oriented company.

T26 (*Track customers' pending grievances / issues and follow up enough to address them.*): The null hypothesis is accepted. This shows that frontline managers job description includes tracking pending customer grievances. This shows that frontline managers have been communicated by

their officials to develop image of their company as customer friendly and customer service oriented company.

T27 (*Good communication and public relations skills are mandatory to perform FLMs' job at DISCOMs.*): The null hypothesis is rejected. This shows that the front line managers do not find communication and public relation skills mandatory for to fulfil the roles and responsibilities of their present job

T28 (*Being cost conscious enough in your work and providing services to customers.*): The null hypothesis is accepted. This shows that frontline managers job description also includes increasing revenue through better customer services this is further cemented by the findings on technical task item T13.

T29 (*Capable to develop deep collaborative relations between DISCOM and customers to create a win-win situation.*): The null hypothesis is rejected. This shows that the front line manager do not develop deep collaborative relations between power distribution company and its customers to create a win-win situation;

T30 (*Try to build DISCOM a customer friendly company with good image in general public.*): The null hypothesis is rejected. The front line managers do not build their company image as customer friendly company. This finding has serious repercussion as the company motivate the field officer to build company image thus, this non- congruence is a communication gap which need to be addressed in organisation strategy and an important finding at the need assessment phase of training.

T31 (*Have team spirit and fellowship at their workplace to serve customers better.*): The null hypothesis is rejected. This shows that the frontline managers do not hold team spirit and fellowship at their workplace to serve customers better which in turn further reinforces the findings on T30.

T32 (*Thorough and precise in approaching DISCOM's work and your personal activities.*): The null hypothesis is rejected. This shows that the frontline managers lack thorough and precise approach to work and personal activities. This finding underpins that the findings on item T30 and T31 is due to T32 Therefore in order to find the underlying reasons.

Discussion

The discussion on the task items (technical and commercial) is presented here as per the research objective, *'To analyse the training needs of DISCOMs' frontline managers at task level'* (RO2).

The findings on technical-task items can be summarised as follows: Researcher can state that the frontline managers at power distribution companies under study are aware that their job description includes not only ensuring metering of customers' electricity consumption but also educating them on safety issues and making them aware of government schemes for customers. With these roles and responsibilities there is also a prerequisite that frontline managers should anticipate future expectation of their customers and communicate the same to their superiors. The fulfilment of this prerequisite is found missing leading to performance gap. The task (technical) level factors, which further affect frontline managers' training need assessment at DISCOMs in central India, are; i) The findings highlight that front line managers also communicate electricity customers on penalties for theft in order to reduce electricity outage. Another requirement here is to educate the customers not only on installation but also on usage of energy efficient appliances, balanced load, and low power factor in installation. Thus, frontline managers should communicate and converse with their customers on installation and usage of power efficient appliances. The fulfilment of this prerequisite is also found missing leading to performance gap; ii) Moreover, the effect of customers' expectations on power distribution company service is evident from the findings that the frontline managers need to redress customer grievances suggesting floor level grievance management i.e. redressing the grievance at the offset only. Most of the grievances in general are related to bill since frontline managers do not advise their customers on different categories and slabs of electricity tariff. This leads to communication gap; iii) The emphasis on increasing revenue further reinforces the

impact of competition and role of customer services on power distribution companies. This finding has strategical implication for the power distribution companies under study.

Analysing the summarized findings on technical-task items with regard to research objective, RO2:

In power distribution company, anticipating customers' future expectations should be aligned with functional requirements and more closely with performance demands and customer needs (Bhatnagar et al. 2011). The findings on the technical task items underlines the non- fulfilment of this alignment. Rothwell and Kazanas (2004) the task analysis determines exactly what a worker must know and do. By this task analysis establishes standards for performance. Apparently middle managers presume that the frontline managers are aware of their job description. Therefore, with this assumption they do not take care to forward top management vision of branding the company image as quality customer service provider. Thus, the middle manager should explain the task as per company expectation on front line manager's performance towards enhancing their customer base. If the target jobs are defined beforehand, then methodological options, participants, points of contact can be defined more easily (Goldstein, 1993). Brown (2002) stated that 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 and knowledge required to perform tasks; and where and how these skills are best acquired". World Bank (2007) reported that task analysis defines what individuals and teams are doing and should be doing in order to contribute to current results. The effect of customers' expectations on power distribution company service is evident from the findings that the frontline managers need to redress customer grievances suggesting floor level grievance management i.e. redressing the grievance at the offset only. Most of the grievances in general are related to bill since frontline managers do not advise their customers on different categories and slabs of electricity tariff. Hence, it seems frontline managers may be undertaking the tasks listed in their job description and redressing customer grievances for developing better customer base. They do not consider mandatory job responsibility to aware customer on energy efficient appliances, installation shortcomings and finding future customer expectations from power distribution companies. According to Singh (2014) DISCOMs should conduct public

awareness campaigns to make people aware of the grievance handling forums and should educate people on installation, safety, penalties, safe-installation, energy efficient appliances, balanced load, and low power factor in installation. Customers' opinion of overall service quality is very much influenced by the impression, when they encounter front-line staff (Bencsik, 2006). The prerequisite to ensure the success of power sector reforms is by increasing revenue collection (Tripathy and Thakur (2007). The power distribution companies under study also put emphasis on increasing revenue. These findings reinforce the impact of competition and role of customer services and are symptomatic of strategical implication for the power distribution companies under study.

The deliberation on the overall findings of technical-task analysis shows that the front line managers under study are aware of their job description. The impact of competition and role of customer services are symptomatic of strategical implication for the power distribution companies under study as frontline manager focuses only on redressing customer grievances for developing better customer base. They do not consider mandatory job responsibility to aware customer on energy efficient appliances, installation shortcomings and finding future customer expectations from power distribution companies. Therefore, the researcher can state that merely taking up field work is not sufficient for the front line manager. The responsibility of FLM, who are the interface between the power distribution company and its customer, is that of a torch bearer. Thus, FLM should turn up to anticipate their customers' future expectations. Therefore, organisation should make arrangement to align these functional requirements with performance demands from front level managers and customer needs. This calls for the strategic task analysis i.e. the training system should be fitted with functional requirements, performance demands and customer needs.

The findings on commercial-task items can be summarised as follows: Researcher can state that the frontline managers at power distribution companies under study are aware that their job description includes not only ensuring metering of customers' electricity consumption but also to track customer grievances and resolve customer problems fast in order to build the reputation of the company. The organisation focus is to retain customers through quality and quick services. The front line managers do not motivate loyalty in customers they do not influence them to be

responsible customers. Moreover, the front line managers do not develop deep collaborative relations between power distribution company and its customers to create a win-win situation. The evident reasons on this from the findings include that the front line manager do not find communication and public relation skills mandatory to fulfil the roles and responsibilities of their present job and as a result they do not try to find out future customers' expectations i.e. they do not try to anticipate their customer's needs in terms of required services. However, the frontline managers are aware that their roles and responsibilities also include increasing revenue through better customer services still they do not build their company image as customer friendly company. This non- congruence is a communication gap which needs to be addressed in organisation strategy and an important finding at the need assessment phase of training. The frontline managers do not hold team spirit and fellowship at their workplace to serve customers better which in turn further strengthens the above finding. The frontline managers lack thorough and precise approach to work and personal activities. This finding underpins that the above findings hold strategical implication for the power distribution companies under study.

Analysing the summarized findings on commercial-task items with regard to research objective, RO2:

Among commercial task items the finding underlines understanding customers' needs, expectations, and resolving customer problems as important tasks at power distribution companies. Customer's experience originates from a set of interactions between the customer and company, which provokes a reaction. Its evaluation depends on the comparison between a customer's expectations and the stimuli coming from the interaction with the company and its offering (Asubonteng et. Al 1996). Jun and Cai (2001), in his study states that, it shouldn't be undermined that a high level service quality helps the corporation to enhancing the overall customer experience in the form of boosting customer satisfaction, decreasing customer defection and enhancing customer loyalty, which are more important in the long term. At times, frontline managers are caught in the middle between discerning customers' service excellence demands and management's productivity and performance requirements. They also often need to participate in unscripted and challenging interactions with customers (Sony and Mekoth, 2012). Managing relationship between the customer and the corporation is definitely very complex and

difficult because trying to understand customer behaviour, with a focus on addressing problems through customers as insiders to the Corporation, with the help of relationship marketing has become cumbersome (Szmigin, 2003). A recent study has underlined that power sector professionals now need to focus on communication skills, lifelong learning, problem solving, professionalism, teamwork, updating oneself – self learning (Chawla, 2012). Company lies first and foremost on a team spirit and an effective work; based on their results on the needs of customers, their business system has improved (Djoudi and Rome, 2014). Lack of thorough and precise approach to work and personal activities as a finding is a sensitive issue which can adversely impact on the professionalism of any individual. Engagement in personal business on the job is not related to self-reported measures of performance, efficiency, job satisfaction, organizational commitment, or intentions to stay, only to procrastination (D'Abate and Eddy, 2007). The deliberation on the overall findings of commercial-task analysis shows that the customer's experience originates from a set of interactions between the customer and company. This interface in case of DISCOMs is frontline manager. Customer's evaluation depends on the comparison between a customer's expectations and the stimuli coming from the interaction with the frontline manager on company and its offering. Managing relationship between the customer and the corporation is definitely very complex and difficult because trying to understand customer behaviour, with a focus on addressing problems through customers as insiders to the Corporation is difficult. At times, frontline managers are caught in the middle between discerning customers' service excellence demands and management's productivity and performance requirements. Front line managers often need to participate in unscripted and challenging interactions with customers. The frontline managers are not making efforts on increasing revenue through better customer services still they do not build their company image as customer friendly company. This non- congruence is a communication gap which needs to be addressed in organisation strategy and an important finding at the need assessment phase of training. Managing company lies first and foremost on a team spirit. The frontline manager does not hold team spirit and fellowship at their workplace to serve customers. The frontline managers lack thorough and precise approach to work and personal activities. This finding underpins that the above findings hold strategical implication for the DISCOMs under study.

6.3.3 Analysing Person items

Considering the objectives of the research regarding person analysis, a centralised hypothesis is developed and tested for determining training needs of the frontline managers by their immediate superiors, the middle managers at organisation level.

Null Hypothesis (H_0): *There is no significant difference of opinion between Middle Managers and Frontline Managers with regard to person analysis for TNA.*

Alternate Hypothesis (H_1): *There is a significant difference of opinion between Middle Managers and Frontline Managers with person to person analysis for TNA.*

Hypothesis is tested applying Chi-Square test using SPSS. Few relevant past studies using Chi-square listed in Table 6.8

Table 6.8: Relevant studies using Chi-Square test for Person Analysis

Author	Year	Study
Guthrie and Schwoerer,	1994	Individual and contextual influences on self-assessed training needs.
Lavanya	2013	An Empirical Study on Training Need Analysis
Vijayabanu and Therasa	2014	Training Based on Sequential Need Analysis Process in a Public Sector Organization
Ahmed	2015	Effectiveness of TNA based Training in Karachi's Pharmaceutical Industry.

Person items (Knowledge): The Chi-square value obtained on different person items (knowledge) is compiled in Table 6.9 they were compared with the critical value as per standard Chi-Square Distribution Table (see Appendix) for their respective degrees of freedom.

Table 6.9: Chi-Square Test (Person Items - Knowledge)

(N=360)

Person items		Chi-Square Test Results			Null Hypothesis status
		Calculated value X^2	Critical (Table value)	Degrees of freedom	
P1	Setting and calibration of modern digital relays.	10.923	10.597	2	Rejected
P2	Understanding benefits of distributed generation and promoting it in remote areas.	5.077	10.597	2	Accepted
P3	Undertaking simulation study in medium and low voltage networks using power system software.	15.769	10.597	2	Rejected
P4	Installing right switchgears at right location in the system.	9.000	10.597	2	Accepted
P5	Identify work related issues and draw as much conclusion possible from the given information.	10.231	10.597	2	Accepted
P6	Anticipating short and long term consequences of FLMs' actions and decisions.	8.538	10.597	2	Accepted
P7	Strong understanding of various tariffs, surcharges, and penalties in-force.	9.462	10.597	2	Accepted
P8	Quality numerical and analytical reasoning for higher performance.	15.846	10.597	2	Rejected
P9	Tracking progress and quality of work of the team to achieve effective output.	9.205	7.879	1	Rejected
P10	Understand financial procedures and	16.462	10.597	2	Rejected

	practices to monitor malpractices.				
P11	Understanding internal audit practices and setting procedures for compliance.	7.538	10.597	2	Accepted

Conducted at 95% confidence level at degree of freedom specified in the table

Interpretation

The results of Chi-Square test show that null hypothesis is accepted for six knowledge items of person analysis. These items are - P02 (Understanding benefits of distributed generation and promoting it in remote areas), P04 (Installing right switchgears at right location in the system), P05 (Identify work related issues and draw as much conclusion possible from the given information), P06 (Anticipating short and long term consequences of FLMs' actions and decisions), P07 (Strong understanding of various tariffs, surcharges, and penalties in-force), and P11 (Understanding internal audit practices and setting procedures for compliance). The null hypothesis is rejected for five knowledge items of person analysis - P01, P03, P08, P09 and P10

This shows that there is inconsistency on following points- a) the frontline managers at DISCOMs under study are not able to set and calibrate modern digital relays; b) the frontline managers has not undertaken simulation study in medium and low voltage networks using power system software; c) the frontline managers are not good at numerical and analytical reasoning which is required for higher performance; d) the frontline managers do not track progress and quality of work of the team to achieve effective output; e) the frontline managers do not have complete understanding of financial procedures and practices to monitor malpractices.

Findings

P1 (*Setting and calibration of modern digital relays*): The null hypothesis is rejected. This shows that the frontline managers do not consider having knowledge on setting and calibrating digital relays important to their field job. With updating of technology the digital relays are need of the hour thus one of the reason for performance gap at task level is non congruence to the technological up gradation of these field officers.

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P2 (Understanding benefits of distributed generation and promoting it in remote areas): The null hypothesis is accepted. This shows that the frontline managers consider having an understanding of the benefits of distributed generation and promoting it in remote areas. This highlight on rural electrification and distribution of power to remote areas which is one of the formation reasons of power distribution companies in India.

P3 (*Undertaking simulation study in medium and low voltage networks using power system software*): The null hypothesis is rejected. This shows that the frontline managers do not consider having knowledge on *medium and low voltage networks using power system software.* With updating of technology the simulation training on voltage networks is of prime importance thus one of the reasons for performance gap at task level.

P4 (*Installing right switchgears at right location in the system*): The null hypothesis is accepted. This shows that the frontline managers are confident in switchgear installation job.

P5 (*Identify work related issues and draw as much conclusion possible from the given information*): The null hypothesis is accepted. This shows that frontline managers are capable of drawing information from their customers. This finding suggests that frontline managers have capabilities to draw information from the customers for finding solution to technical issues and if provided inputs and training they can fulfil their customer services better.

P6 (*Anticipating short and long term consequences of FLMs' actions and decisions*): The null hypothesis is accepted. This shows that frontline managers are technically competent. They can, not only retrieve information from their customers to find solution to technical issues but also their offered solutions meet customers' expectations. This further enforces that, if these frontline managers are provided inputs and training they can serve their customers better. The findings on task analysis suggest that the inputs are provided to frontline managers which they fail to convert into practice. This gives clear indication to determine training need on this aspect to bridge the gap. Therefore, in task analysis which appeared to be communication gap is actually communication gap leading to performance discrepancy.

P7 (*Strong understanding of various tariffs, surcharges, and penalties in-force*): The null hypothesis is accepted. This shows that frontline managers are well aware on the company tariffs, surcharges, and penalties. This finding is matches with the findings of task analysis that the frontline manager informs the customer on tariffs.

P8 (*Quality numerical and analytical reasoning for higher performance*): The null hypothesis is rejected. This shows that FLMs' technical competence is limited to taking readings from the meter and when it comes to analytical reasoning they can handle only petty issues suggesting that they do this based on past experience and there is need to determine training on how to handle customer queries rationally. This finding further support the findings of task analysis that the FLMs need to be training on what to communicate to customers for building the image of DISCOM.

P9 (*Tracking progress and quality of work of the team to achieve effective output*): The null hypothesis is rejected. This finding also match with the findings on task analysis. this suggest the frontline managers only perform the assigned task they do not put extra efforts on building company image as best customer service provider company.

P10 (*Understand financial procedures and practices to monitor malpractices*): The null hypothesis is rejected. This finding also match with the findings on task analysis. this suggest the frontline managers only perform the assigned task to generate revenue but they do not know how much cost is laid to company by theft and other such practices.

P11 (*Understanding internal audit practices and setting procedures for compliance*): The null hypothesis is accepted. This finding suggests that the frontline managers are well informed on compliance procedures. They also understand the importance and process of internal audits. This further determine training needs for the front line managers on how to increase revenue for the DISCOM by making customer understand their compliances towards the company.

Person items (Skills): The Chi-square value obtained on different person items (skills) is compiled in Table 6.10 they were compared with the critical value as per standard Chi-Square Distribution Table (see Appendix) for their respective degrees of freedom.

Table 6.10: Chi-Square Test (Person Items - Skills)
(N=360)

Person items		Chi-Square Test Results			Null Hypothesis status
		Calculated value X^2	Critical (Table value)	Degrees of freedom	
P12	Undertaking technical investigation if same fault reoccurs in same area/feeder.	10.000	10.597	2	Accepted
P13	Reconfiguring network using utility software for improved technical solutions.	18.769	10.597	2	Rejected
P14	Aligning staff, designing work, and allocating tasks to achieve DISCOMs' goals.	7.538	10.597	2	Accepted
P15	Having strong commitment towards respecting rules and work ethics.	10.308	10.597	2	Accepted
P16	Using utility related software for commercial solutions and maximizing revenue.	19.462	10.597	2	Rejected
P17	Developing need based templates / programs for commercial and other works.	19.538	10.597	2	Rejected

Conducted at 95% confidence level at degree of freedom specified in the table

Interpretation

The result of Chi-Square test shows that null hypothesis is accepted for three skill items of person analysis. These items are – P12 (Undertaking technical investigation if same fault reoccurs in same area/feeder), P14 (Aligning staff, designing work, and allocating tasks to achieve DISCOMs' goals), and P15 (Having strong commitment towards respecting rules and work ethics). Frontline managers consider having skills on these items as a part of their job specification. The null hypothesis is rejected for the three skill items of person analysis - P13, P16 and P17.

This shows that there is inconsistency on following points- a) the frontline managers at DISCOMs under study are not using utility networking software for improved technical solutions; b) the frontline managers are not using utility related software for commercial solutions and maximizing revenue; c) the frontline managers are not developing need based templates for resolving technical and commercial difficulties using software.

Findings

P12 (*Undertaking technical investigation if same fault reoccurs in same area/feeder*): The null hypothesis is accepted. This indicates that frontline managers take technical support on the repetition of feeder fault. With the availability of technical solutions and technical updating of power distribution companies this should be the first priority of the front line managers to use technical support software.

P13 (*Reconfiguring network using utility software for improved technical solutions*): The null hypothesis is rejected. Thus, the frontline managers at DISCOMs under study are not using utility networking software for improved technical solutions

P14 (*Aligning staff, designing work, and allocating tasks to achieve DISCOMs' goals*): The null hypothesis is accepted. This finding shows commitment of the frontline and middle managers towards the company goals. The findings on better customer services, revenue generation, and

cost cutting by checking theft and other malpractices are negative therefore it seems that this commitment is more of a lip service rather adapted to action.

P15 (Having strong commitment towards respecting rules and work ethics): The null hypothesis is accepted. This finding on P15 strengthens the findings on P14 and further clarify that the commitment of the frontline and middle managers towards the company goals is adapted to action in concern to company rules and work ethics. Here it is important to know whether any deviation from company rules and work ethics have any repercussions on their payment and promotion.

P16 (Using utility related software for commercial solutions and maximizing revenue): The null hypothesis is rejected. The finding suggests that the frontline managers are not using utility related software for commercial solutions and maximizing revenue;

P17 (Developing need based templates / programs for commercial and other works): The null hypothesis is rejected. The finding indicates that the frontline managers are not developing need based templates for resolving technical and commercial difficulties using software.

Person items (Ability): The Chi-square value obtained on different person items (ability) is compiled in Table 6.11 they were compared with the critical value as per standard Chi-Square Distribution Table (see Appendix) for their respective degrees of freedom.

Table 6.11: Chi-Square Test (Person Items - Ability)

(N=360)

Person items		Chi-Square Test Results			Null Hypothesis status
		Calculated value X^2	Critical (Table value)	Degrees of freedom	
P18	Investigating feeder wise energy consumed and energy billed.	10.308	10.597	2	Accepted

P19	Assessing commercial and technical losses in the system	16.077	10.597	2	Rejected
P20	Promoting demand side management on DISCOM side.	17.000	10.597	2	Rejected
P21	Promoting demand side management at customers' end	17.000	10.597	2	Rejected
P22	Promote energy efficiency measures in the system.	19.538	10.597	2	Rejected
P23	Making unbiased judgment in addressing stakeholders' grievances.	9.308	10.597	2	Accepted
P24	Demonstrating trust and empathy, listening to facts, and understand customers' feelings.	19.769	10.597	2	Rejected
P25	Identifying tasks, assess their importance, and prioritise them to get better results.	11.538	10.597	2	Rejected
P26	Breaking old habits without or less support for new skills and behaviours at workplace	7.538	10.597	2	Accepted
P27	Influencing others in a way that results in acceptance, agreement, or behaviour change.	9.385	7.879	1	Rejected
P28	Loyalty towards DISCOM in preparing it to make a positive difference in the future.	19.769	10.597	2	Rejected
P29	Resolving work place conflicts and ensuring a cordial working environment.	6.000	10.597	2	Accepted
P30	Quick decision making and working out amicable solutions for unforeseen.	9.231	10.597	2	Accepted
P31	Providing constructive feedback to	6.385	10.597	2	Accepted

	stakeholders and showing interest in them.				

Conducted at 95% confidence level at degree of freedom specified in the table

Interpretation

The results of Chi-Square test show that null hypothesis is accepted for six ability items of person analysis. These items are –P18 (Investigating feeder wise energy consumed and energy billed.), P23 (Making unbiased judgment in addressing stakeholders' grievances.), P26 (Breaking old habits without or less support for new skills and behaviours at workplace), P29 (Resolving work place conflicts and ensuring a cordial working environment.), P30 (Quick decision making and working out amicable solutions for unforeseen.), and P31 (Providing constructive feedback to stakeholders and showing interest in them.). The null hypothesis is rejected for the eight ability items of person analysis - P19, P20, P21, P22, P24, P25, P27 and P28.

This shows that there is inconsistency on following points- a) the frontline managers at DISCOMs under study are not checking the commercial and technical losses in the system; b) the frontline managers are not promoting the demand side of DISCOM; c) the frontline managers are not promoting energy efficiency measures in the system; d) the frontline managers are not demonstrating trust and empathy, listening to facts, and understand customers' feelings; e) the frontline managers neither identify the tasks nor prioritise them to get better results; f) the frontline managers are not influencing others to get customer acceptance on DISCOM services; g) the frontline managers are not committed for preparing future base of DISCOMs.

Findings

The findings on person (ability) items are also presented as per research question, '*What are the person level factors which affect frontline managers' training at DISCOMs in central India?*' (RQ3). These findings are as follows:

P18 (*Investigating feeder wise energy consumed and energy billed*): The null hypothesis is accepted. This shows that the frontline managers are professionally competent they check meter reading and generate bill. Further from the findings P30 and T26 it is explicit that they are delegated to handle bill related grievances and other petty issues in order to offer quality service to their customers.

P19 (*Assessing commercial and technical losses in the system*): The null hypothesis is rejected. This shows that the frontline managers at DISCOMs under study are not checking the commercial and technical losses in the system.

P20 (*Promoting demand side management on DISCOM side*): The null hypothesis is rejected. This shows that the frontline managers do not promote the demand side of DISCOM. This finding is in conformity with the findings of T2.

P21 (*Promoting demand side management at customers' end*): The null hypothesis is rejected. This shows that the frontline managers do not promote the demand side of DISCOM at customer's end. This finding is in conformity with the findings of T24.

P22 (*Promote energy efficiency measures in the system*): The null hypothesis is rejected. This shows that the frontline managers are not promoting energy efficiency measures in the system. This is also supported with the findings of T10.

P23 (*Making unbiased judgment in addressing stakeholders' grievances*): The null hypothesis for P23 is accepted. The front line managers track customers pending grievances and redress grievances at floor level. this is also finding of T25 and T26.

P24 (*Demonstrating trust and empathy, listening to facts, and understand customers' feelings*): The null hypothesis is rejected. Thus, the frontline managers are not demonstrating trust and empathy, listening to facts, and understand customers' feelings. This finding is in the line of findings of T21.

P25 (*Identifying tasks, assess their importance, and prioritise them to get better results*): The null hypothesis is rejected. This indicates that the frontline managers neither identify the tasks nor prioritise them to get better results;

P26 (*Breaking old habits without or less support for new skills and behaviours at workplace*): The null hypothesis is accepted. This confirms the dilemma of frontline managers underpinned in the findings of P15.

P27 (*Influencing others in a way that results in acceptance, agreement, or behaviour change*): The null hypothesis is rejected. This shows that the frontline managers are not influencing others to get customer acceptance on DISCOM services.

P28 (*Loyalty towards DISCOM in preparing it to make a positive difference in the future*): The null hypothesis is rejected. The frontline managers are not committed for preparing future base of DISCOMs this is further justified with the findings on T17.

P29 (*Resolving work place conflicts and ensuring a cordial working environment*): The null hypothesis is accepted. The findings of T31 are that they do not possess team spirit and fellowship at their work place to serve customer better. Thus, the findings on P29 are clear indication that they resolve personal conflicts for affable work environment rather benefitting customers.

P30 (*Quick decision making and working out amicable solutions for unforeseen*): The null hypothesis is accepted. This shows that frontline managers are delegated to take on the spot decisions on count of better customer services this finding is further cemented by the findings on T23 and T25.

P31 (*Providing constructive feedback to stakeholders and showing interest in them.*): The null hypothesis is accepted. This shows that power distribution companies collect customer feedback on the services of frontline managers.

Discussion

The discussion on the person items (knowledge, skills, ability) is presented here as per the research objective, *'To analyse the training needs of DISCOMs' frontline managers at person level'* (RO3).

The findings on knowledge-person items can be summarised as follows: Researcher can state that the frontline managers at power distr   do not consider having knowledge on setting and calibrating digital relays important to their field job. With the formation of DISCOMs, and updating of technology, the digital relays are need of the hour thus one of the reason for performance gap at task level is non-congruence to the technological up gradation of these field officers; ii) the frontline managers consider having an understanding of the benefits of distributed generation and promoting it in remote areas important. This highlights on rural electrification and distribution of power to remote areas which is one of the formation reasons of power distribution companies in India; iii) the frontline managers do not consider having knowledge of analysis on medium and low voltage networks using power system software important. With updating of technology the simulation training on voltage networks is of prime importance thus one of the reasons for performance gap at task level; iv) the frontline managers are confident in switchgear installation job; v) the frontline managers are capable of drawing information from their customers. This finding suggests that frontline managers have capabilities to draw information from the customers for finding solution to technical issues and if provided inputs and training they can fulfil their customer services better; vi) the frontline managers are technically competent. They are not only capable of retrieving information from their customers for finding solution to technical issues but the offered solutions are as per customer expectation this further enforces that if these field operators are provided inputs and training they can fulfil their customer services better. vii) frontline managers are well aware on the company tariffs, surcharges, and penalties. This finding is matches with the findings of task analysis that the frontline manager informs the customer on tariffs; viii) the frontline managers technical competence is limited to ensure meter readings and when it comes to analytical reasoning they can handle only petty issues suggesting that they do this based on past experience and there is need to determine training on how to handle customer queries rationally. This

finding further support the findings of task analysis that the frontline managers need to be training on what to communicate to customers for building the image of the company; ix) frontline managers only perform the assigned task they do not put extra efforts on building company image as best customer service provider company; x) frontline managers only perform the assigned task to generate revenue but they do not know how much cost is laid to company by theft and other such practices of customers and general public thus unawareness can be one reason for this gap determining strategical implication to organisation for updating their field officers not only on how to curb the malpractices but also why they are required to control them . Company can connect this to reward policy for these field operators; xi) frontline managers understand the importance and process of internal audits. This further determine training needs for the front line managers on how to increase revenue for the power distribution company by making customer understand their compliances towards the company.

Analysing the summarized findings on knowledge-person items with regard to research

The technical know-how on setting up and calibrating the digital relays is one of the basic functions to power distribution. Power companies are shifting to more complex, data driven, "smarter" technologies (Deloitte, 2015). With updating of technology the knowledge of installation of modern switchgears and protection devices in the network is of prime importance. As the power industry evolves, utilities will have to change profile of their professionals from technical experts focused on technical excellence to new professionals who possess management, analytical and commercial capabilities. Also, promoting distributed generation in remote area is important in expanding the electricity network in the areas which are currently not integrated with the grid. This is in line with government's vision for 100% electrification of villages. The findings on knowledge items are in conformity with findings on few task items suggesting one of the reasons for performance gap at task level is non-congruence to the technological up gradation of the field officers under study. IEMR Report (2011) on Human Capital Challenges in Indian Power Sector has highlighted that due to the technology intensive nature of the business, technical and managerial competency is now critical. DISCOMs' management therefore needs to

update the knowledge of frontline managers on the technologies and practices as and when adopted.

The deliberation on the overall findings of knowledge-person items clarifies that the technological know-how of frontline managers under study is not as per the industry expectation discrepancy.

The findings on skills-person items can be summarised as follows: Researcher can state that the frontline managers at power distribution companies under study are not using utility software for improved technical solutions; ii) the frontline and middle managers are committed towards the achievement of goal of power distribution company under study. The findings on better customer services, revenue generation, and cost cutting by checking theft and other malpractices are negative therefore it seems that this commitment is more of a lip service rather adapted to action; iii) the frontline managers are not using utility related software for commercial solutions and maximizing revenue.

Analysing the summarized findings on skills-person items with regard to research objective, RO3: The findings mainly relate to lack of skills to use modern technologies and practices. The frontline managers are not using utility software, especially for system analysis and exploring technical solutions. Power distribution sector is now a days using software for utility applications including billing, data analysis, network modelling, protection, coordination, system studies, and commercial solutions. Most of the utility software has been developed locally in India. Frontline managers are also not skilled in developing need based templates and using technological solutions in customer services. Findings have revealed that frontline managers do possess skills to investigate reoccurrence of faults in same area or circuit. This analysis however, would have been easier and quicker if they perform it on any power system software. Further, this commitment of the frontline and middle managers towards the company goals is adapted to action in concern to company rules and work ethics. Thus, it is important to know whether any deviation from company rules and work ethics have any repercussions on their payment and promotion. Moreover, they are also not developing need based templates for resolving technical and commercial difficulties using software. This shows they are either not

interested using these new technologies or they are not updated on the usage of update technology; another reason to this can be there outlook towards technology as a substitute to These findings on skill items endorse observations of Ghoria (2012) which states that, in the corporate and field level, there is a distinct skill gap which has arisen due to lack of knowledge upgradation of experienced staff or absence of skill transfer to the newly employed staffs. Both existing employees and new recruits therefore need update on technological scenarios.

The deliberation on the overall findings of skills-person items clarifies that the technological know-how of frontline managers under study is not as per the industry requirement and customer discrepancy.

The findings on ability-person items can be summarised as follows: Researcher can state that the frontline managers at DISCOMs under study are professionally competent they ensure meter reading and issuance of bills. Further from the findings P30 and T26 it is explicit that they are delegated to handle bill related grievances and other petty issues in order to offer quality service to their customers; ii) the frontline managers at DISCOMs under study are not checking the commercial and technical losses in the system; iii) the frontline managers do not promote the demand side management at DISCOM's end. This finding is in conformity with the findings of T2; iv) the frontline managers also do not promote the demand side management at customers' end. This finding is in conformity with the findings of T24; v) the frontline managers are not promoting energy efficiency measures in the system. This is also supported with the findings of T10; v) the front line managers track customers pending grievances and redress grievances at floor level. This is also finding of T25 and T26; vi) the frontline managers are not demonstrating trust and empathy, listening to facts, and understand customers' feelings. This finding is in toeing the line of T21 findings; vi) the frontline managers neither identify the tasks nor prioritise them to get better results; vii) the frontline managers support change by breaking old habits without or less support for new skills and behaviours at workplace this confirms the dilemma of frontline managers underpinned in the findings of P15; viii) the frontline managers are not influencing others to get customer acceptance on DISCOM services ix) the frontline managers are not committed for preparing future base of DISCOMs this is further justified with the

findings on T17; x)the findings of T31, that frontline managers do not possess team spirit and fellowship at their work place to serve customer better when analysed in the light of the finding that the frontline managers resolve work place conflicts and ensure a cordial working environment (P29). It can be said that the findings on P29 are clear indication that frontline managers resolve personal conflicts for affable work environment rather benefitting customers; xi) the frontline managers are delegated to take on the spot decisions on count of better customer services this finding is further cemented by the findings on T23 and T25; xii) the power distribution companies collect customer feedback on the services of frontline managers.

Analysing the summarized findings on ability-person items with regard to research objective, RO3: The front line managers are unable to assess system losses which are important to check for any power distribution company. They are also not able to promote demand side management at DISCOMs' or customers' end. Demand side management can enable the energy users to act as virtual power plants and power the utilities and grid operators to treat this virtual capacity as a dispatch resource which can be called upon as and when needed through demand response measures (Gupta and Bhattacharya, 2013).

The deliberation on the overall findings suggests that findings on front line managers' ability-person items strengthens the findings on the technical and commercial items, this consistency in findings advocate that the lack of technical know-how and ability to use the learnt skills are the major reasons for performance gap.

6.4   SUMMARY

1) The demographic information represents a fair and equal representation of respondents in each category of response.

2) The data interpretation is presented on organisation analysis, task analysis and person analysis such that the research questions are addressed in findings and the research objectives are deliberated in the discussion on the findings.

3) The findings of organisational analysis show that the DISCOMs under study undertake TNA for training. The training needs for front line managers are passed to the top management by middle managers; indicating, follow-up of the hierarchical processes. Hence, these DISCOMs are concerned with competency building of FLMs and are aware that training needs determination has an effect on performance. However, the learnt skills are not being effectively transformed at the work place due to few work environment reasons which are internal and external to the organisation. The internal reasons are; less-supporting work environment, lack of resources, mismatch of present tasks with learnt skills, less support from colleagues', weak intra-organisational networking. The external reasons are; pressures on the work related decisions by the political groups and trade union. Therefore, the researcher can state that merely conducting training needs assessment is not sufficient the organisation should turn up to take the strategic training needs assessment i.e. the training system should be fitted with organisational goals.

4) The findings of task analysis show that the FLMs under study are aware of their job description. There is communication gap between middle managers and FLMs on task items are leading to performance gap. The impact of competition and role of customer services are symptomatic of strategical implication for the power distribution company under study. Organisation should make arrangement to align the functional requirements with performance demands from FLMs and customer needs. This calls for the strategic task analysis i.e. the training system should be fitted with functional requirements, performance demands and customer needs.

5) The findings of person analysis are in uniformity with the findings on the technical and commercial items, this consistency in findings advocate that the technological know-how of frontline managers under study is not as per the industry requirement and customer discrepancy. The inability to use the learnt skills is the major reasons for performance gap.

6) The chapter seven concludes the findings and forwards contribution of present work to the theory and practice.