I J C T A, 9(5), 2016, pp. 2509-2516

The Impact of Obligation of Field Engineers to Work and Family on The Performance of Thermal Power Station

N. P. Myilswamy* and R. Gayatri**

ABSTRACT

In this paper, the impact of obligation of field engineers to work and family on the performance of thermal power stations located in Chennai has been investigated and discussed. The survey conducted among the 415 field engineers of thermal power stations located in Chennai. The perceived work culture, work nature, society, benefits, welfare measures and support from family of field engineers of thermal power stations were investigated through statistical testing methods to find out their influence on the performance of thermal power station. The responses of the survey conducted among the field engineers were considered for this study. The result of this research study revealed that the obligation of field engineers towards to work and family have a considerable effect on the performance of the thermal power station.

Keywords: Work, family, performance, society, benefits

1. INTRODUCTION

The power sector is externally crucial for Indian economy. It becomes one of the most important components of infrastructure. It affects the economic growth and well being of a nation. Electric power is needed for economic growth, for improving quality of life and for increasing opportunities for development.

Thermal Power Station is the most conventional source of electric power. The thermal power station plays an important role in the state's power position. Our energy demand has been growing rapidly in the last two decades due to technological advancement. The demand has been boosted by industrial growth as well as a rise in the household consumption. On the other hand, supply of power energy too has grown but has been outstripped by demand. To meet out the gap between the supply and demand, the efficient performance of existing power generating stations finds a critical place. The performance improvement in the existing thermal power stations is highly essential since the installation of new power generating station involves high cost involvement and longer time period.

Employees of today's world are more likely to be concerned with balancing their work and family life. Their commitment on the both roles leads to conflict. The research study that examines wok-life balance has advanced over last decade. This research study is one of its first kind which looks into the role of employees obligation to work and family responsibilities in the performance of thermal power generating stations.

2. PRIOR RESEARCH

Work-Life Balance was initially conceived in terms of work-family conflicts (Kahn et al, 1964), work-family enhancement/ facilitation (Greywacz and Marks, 2000) or work-family balance (Hill, 2001). Most

* Research Scholar, Department of Management Studies St. Peter's University, Avadi, Chennai, India, *Email: myilswamyperumal@gmail.com*

** Professor& Head of Department of Management Studies, St.Peter's University, Avadi, Chennai, India, *Email: r.gayatrisuresh@yahoo.com*

researchers make distinction between work-family conflict and family-work conflict. Work-Life Balance was defined as 'the extent to which individuals are equally engaged in and equally satisfied with work and family roles (Clark, 2000, Kirchmeyer, 2000).

Work-Life Balance refers to the effective management of multiple responsibilities at home, at work and in the other aspects of life. Work-Life Balance is an issue that is important for the both organization and employee. In the present economic scenario, every organization hard pressed for higher productivity and need employees, in improved Work-Life Balance, who will contribute more towards organizational growth and success. (Naithani, 2010). Global labour market is becoming highly competitive and organizations are outsourcing to reduce labour cost. Due to this, every employee is subject to longer working hours to achieve the employer expectation. A few decades earlier, it was expected that the emergence of new technology would reduce the burden on worker by shortening working hours and bring leisure to work force. But, the developed technology has left the workers with very less free time from their paid work.

Clark (2000) defines work-family balance as "satisfaction and good functioning at work and at home, with a minimum of role conflict". Work-family research has long been guided by the role stress theory, wherein the negative side of the work-family interaction has been put under the focus. It is generally established that work-life balance is important for an individual's psychological well-being, and that high self-esteem, satisfaction, and overall sense of harmony in life.

Much of the general analysis about the causes and consequences of Work-Life imbalance is speculative and based on limited believable proof. We need to learn more in particular about the consequences of imbalance on family and community and on changing values among younger workers.

3. PRESENT RESEARCH

This research study focus on the work-family role conflicts as one of the factors. When one role pressures are in compatible with pressures in another role, the work-family conflicts occurs. Work – Life balance is a comfortable state of equilibrium achieved between an employee's primary priorities of the employment position and personal life style. The demands of employee's career should not overload the individual's personal life outside the business environment.

If an individual may lack the necessary time to meet the obligations at both work and family, it affects his performance at work. A balanced involvement in work and family roles may also reduce chronic work–family conflicts. The balanced employees are fully engaged in both the roles and they do not allow the situational urgencies to hinder role performance. The performance of an organization is fully depends on the nature of employee engagement.

This research study looks into the obligation of a power sector employee towards work and family and their impact on the performance of the power generating station. In the power sector, the performance of an employee plays a major role in the generation of power. Even a small improvement in the performance of an employee leads to improvement in generation of electricity, which is in high demand in present technologically developed world.

The thermal power stations are the socio-economic industries whose performance is fully defends on the dedicated work of their employees. Their mental satisfaction in their personal life has a major role in the behavior at work place which in turn influences the performance of the organization. This research study has an insight into the effect of employees obligation towards work and family on the performance of thermal power stations located in Chennai. The data collected through questionnaire are subjected to various statistical analyses and studied in detail.

4. METHOD

The present study was a part of a larger study on the impact of work-life balance of field engineers on the performance of thermal power stations in Chennai, India. This study is conducted among the field engineers i.e Junior Engineers, Assistant Engineers and Assistant Executive Engineers of four thermal power stations of TamilNadu Electricity Board located in Chennai. Stratified random sampling is used in selecting the respondents. Only field engineers who are working in thermal power stations in Chennai are treated as Respondents. Totally 620 questionnaires were distributed. Out of 620, 510 were responded. Among the 520 collected questionnaires, 38 were found irrelevant and 57 were incomplete. The remaining 415 (66.93%) were found to be fit for analysis.

4.1. Participants

The sample consists of 20.02% female and 79.80% of male respondents. The majority of respondents were of the age group 31-40 years (39.30%), followed by the age group of 41-50 years (36.90%).The respondents less than 30 years were the least in the sample(9.90%).The majority of respondents are of 6-10 in the same post (40%), followed by the people of0-5 years in the present post (35.70%).It is also seen that 7.50% of respondents of the sample have experience greater than 15 years in the present post who were have Diploma in Engineering as qualification. The 93.70% of respondents were married and only 6.30% are un-married. The majority of the respondents (50.6%) are under graduates in Engineering followed by 31.1% of Diploma holders. 15% of respondents are Post graduates engineering.

4.2. Objectives

The main objectives of this study are:

1. To find out the relationship between Commitment to work and balanced work life activities which improve the performance of thermal power station.
2. To evaluate the present welfare policies are helpful in providing work-life balance even though they have different educational background.
3. The find out level of impact of work culture on perceived performance of the thermal power station.
4. The influence of societal recognition of field engineers on perceived performance of the thermal power station.

5. ANALYSES STRATEGY

5.1. Factor Analysis

Factor analysis is a method of data reduction. It does this by seeking underlying unobservable (latent) variables that are reflected in the observed variables (manifest variables). There are many different methods that can be used to conduct a factor analysis such as principal axis factor, maximum likelihood, generalized least squares, un-weighted least squares. There are also many different types of rotations that can be done after the initial extraction of factors, including orthogonal rotations, such as varimax and equimax. This imposes the restriction that the factors cannot be correlated and oblique rotations, such as promax. Promax allow the factors to be correlated with one another. We can also determine the number of factors that you want to extract. Given the number of factor analytic techniques and options, it is not surprising that different analysts could reach very different results analyzing the same data set.

Prior to performing the factor analysis, the suitability of the data for factor analysis was assessed using Kaiser-Mayer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity and the results are as follows.

Table 1

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.779
Bartlett's Test of Sphericity	Approx. Chi-Square	8827.939
	df	1081
	Sig.	.000

The KMO index ranges from 0 to 1, with 0.6 suggested as a minimum value for acceptable factor analysis. Bartlett's Test of Sphericity should be significant ($p<0.5$) for the factor analysis to be considered appropriate. The KMO value was 0.779 which exceeded the recommended value of 0.6. The Bartlett's Test of Sphericity was statistically significant ($p = 0.000$), and is therefore accepted that the factor analysis was appropriate

A Principal Component Factor (PCF) with a Varimax rotation of the questionnaire was conducted on data gathered from 415 participants. It resulted in 7 factors and the results are given in following pages.

5.1.1. Factor 1

From the above table, we can see that Factor 1 includes the variables that describe the work culture prevailing in the thermal power station and possible effects of work culture. It includes variables such as happiness on time spent in company, feeling free to exercise rights, tiredness due to work, worrying about job when actually not working, missing quality time with family, satisfaction with amenities and promotional policies and commitment to work. This factor is named as Work culture and Life activities.

Table 2
Factor 1: Work Culture

Statement	*Factor Loading*	*Eigen Value*	*% variance*
Do you feel Happy about the amount of time you spend at work?	0.477		
Do you feel free to exercise your rights in your organization?	0.502		
Do you ever felt tired or depressed because of work?	0.401		
How often do you think or worry about work (when you are not actually at work or traveling to work)?	0.515		
Are you missed out any quality time with your family or your friends because of work pressure?	0.625	9.571	10.471
Are you satisfied with amenities provided to you by your organization?	0.427		
Are you satisfied with Promotional policies of your organization?	0.441		
Have your commitment to work has improved the power generation?	0.368		

5.1.2. Factor 2

This factor explains the thermal power station Field Engineer's work nature. It includes variables such as time for managing stress, safety procedures followed, and time to follow our own hobbies, relationship with superior, feeling of job security and appreciation by management on doing good job. This factor is named as Work nature.

5.1.3. Factor 3

This factor explains the support that the Field Engineers of thermal power station get from their families. It includes variables such as able to take care of children, support from family in case of emergency, sharing work at home and family understanding work commitments. The factor is named as Support from family.

Table 3
Factor 2: Work nature

Statement	*Factor Loading*	*Eigen Value*	*% variance*
a. Time available for managing stress by health activities	0.527		
b. Safety procedure at your work place?	0.509		
c. Time available to follow your interest, hobbies?	0.572	3.530	8.906
d. Relationship with your superior?	0.593		
e. Feeling of security in your job.	0.636		
f. Appreciation by management on doing good job by you.	0.557		

Table 4
Factor 3: Support from family

Statement	*Factor Loading*	*Eigen Value*	*% variance*
a. Able to take care of children and their studies?	0.559		
b. Getting support from family when un-time call for emergency work?	0.479		
c. Able to share the work at home	0.462		
d. Family understands official commitment and timings	0.450	2.357	7.512
e. Family understands when not able to attend family function due to work	0.348		

5.1.4. Factor 4

This factor includes variables that are related to societal life of Field Engineers of thermal power station. It includes variable such as feeling of proud in society, lack of togetherness, not able to participate in social gatherings and family functions. This factor is named as societal life.

5.1.5. Factor 5

This factor identifies various benefits provided to the Field Engineers of thermal power station. It includes leave benefits, medical facilities, long travel facilities and loan benefits. The factor is named as Benefits.

5.1.6. Factor 6

This factor elaborates the welfare measures given to Field Engineers. It includes variables such as flexible working hours, permission off given during emergency, insurance/health policy, paid holiday benefits, in house medical centre and facilities of board residential quarters. This factor is named as Welfare measures.

Table 5
Factor 4: Societal life

Statement	*Factor Loading*	*Eigen Value*	*% variance*
a. Do you feel proud in the society about your job?	0.280	2.182	5.854
b. Do you unable to participate in social gatherings/parties due to work?	0.542		
c. Do you unable to participate in family functions due to work?	0.596		
d. Do you feel lack of togetherness in society due to work?	0.490		

5.1.7. Factor 7

This factor summarizes the impact of various benefits, welfare measures and other factors. It includes variables such as benefits motivating to work more, satisfaction with training programs, sacrificing personal work for office work, welfare measures, improving work life balance activities, suggestion of new ideas, receiving appreciation for suggestions and interest in participate in new technology. It is named as Impact of Benefits and Welfare measures/ Perceived performance.

Table 6
Factor 5: Benefits

Statement	*Factor Loading*	*Eigen Value*	*% variance*
a. Medical Leave, Earned Leave & other leave benefits	0.491		
b. Long Travel Concession for family members	0.412		
c. Housing loan (HBA) facility with low interest rate.	0.480		
d. Educational loan for children study	0.483	1.992	5.647
e. Medical services for family and at work spot	0.599		
f. Various loan assistantship for purchase of vehicle, computer etc and festival advances	0.643		

Table 7
Factor 6: Welfare measures

Statement	*Factor Loading*	*Eigen Value*	*% variance*
a. Flexible Working Hours	0.624		
b. Permission off given during Emergency at home	0.664		
c. Insurance/Health policy including Family members	0.510	1.845	5.606
d. Paid Holidays benefits	0.471		
e. In house Medical Centre	0.462		
f. Facilities of Board Residential Quarters	0.358		

Table 8
Factor 7: Impact of Benefits and Welfare measures/Perceived performance

Statement	*Factor Loading*	*Eigen Value*	*% variance*
a. Are the benefits given by Board Motivating you to work more?	0.589		
b. Do you feel satisfied with various training programs offered to you?	0.550		
c. Have you worked for the Board by sacrificing your personal work, considering the benefits?	0.313		
d. With Employee welfare measures, are you able to balance your working life and personal life?	0.646		
e. Do your balanced work & life activities any way used to improve the performance of your power station?	0.375	1.672	5.261
f. Do you agree the existing policies on work-life balance have to be improved further?	0.432		
g. Do you suggest new ideas to improve the power generation?	0.494		
h. Do your suggestions accepted by the management?	0.423		
i. Are you received appreciation for your suggestion?	0.340		

6. FINDINGS

This study proved that there is a significant relationship exists between Commitment to work and balanced work life activities which improve the performance of thermal power station. The balanced work life activities develop the commitment of field engineers of thermal power station.

This study reveals that there is common agreement between all cadres of the field engineers that the present welfare policies are helpful in providing work-life balance even though they have different educational background.

This study proved that the work culture has more impact on perceived performance when compared to other factors such as work nature, benefits, welfare and support from the family members.

This study reveals that the society has only minimal impact. The societal recognition of field engineers does not have much influence on perceived performance. The thermal power generating stations can concentrate on improving work culture to improve performance of field engineers.

This study inferred that the designation of field engineers has effect on their opinion over satisfaction of time spent at work. The field engineers in higher designation feel highly satisfied over the time spent at work when compare to field engineers in lower designation.

7. SUGGESTION

Even though the existing policies on work-life balance satisfies all the cadres of field engineers, further careful implementation of latest developments in the field of human resource management is highly essential to improve the performance of both the field engineers and the thermal power station.

Work-load for the all the cadres of field engineers should be balanced to enable the field engineers to improve their work-life balance by attending family and social functions.

The support of the family members are highly needed for the field engineers of thermal power station to balance the personal and professional life. This research study will create awareness on the nature support to be provided by the family to the field engineers.

Various welfare measures such as house building advance, long travel concession, health insurance, board loan facilities can be improved for the field engineers to improve their commitment thereby improve the performance of thermal power station.

It is necessary to provide facilities like child care, elder care, and specialty health care facilities to the field engineers and their families to improve their involvement and dedication in the work.

8. CONCLUSION

This study was designed to test the substantive relationship between the obligation of field engineers to work and family and the performance of thermal power generating stations from a diverse sample of professional employees. The main purposes of this study was to examine both the work and family obligations of field engineers have a bearing on the performance of the thermal power stations in located Chennai. Analyses strategies such as Factor Analysis and Structural Equation Modeling were used to identify the problems associated. Both the analyses strongly suggests that the field engineer’s obligations to work and family have a positive relationship with the performance of thermal power stations in Chennai.

This study extends previous research on work-family conflicts in many ways. First, this study is first of its kind, which deals with the work culture, work nature, societal life, benefits given, welfare and support from family members of the field engineers of thermal power stations. It was clear from this study that the field engineers of thermal power station are making efforts to balance the work and family obligations for

their improved performance at work with work-life balance policies of thermal power station. To help the field engineers to achieve proper balance in time spent at work and time spent on their personal life requires the thermal power stations to continually consider a variety of field engineer needs and option for addressing those needs.

REFERENCES

[1] Allen, T. (2001). Family-supportive work environments: The role of organizational perceptions. Journal of Vocational Behaviour, 58, 414-435.

[2] Bellavia, G.M. & Frone, M.R. (2005). Work–family conflict. In J. Barling, E.K.Kelloway & M.R. Frone (Eds.), Handbook of Work Stress, Thousand Oaks, CA: Sage. pp. 113-147.

[3] Clark, S.C. (2000). Work/family border theory: A new theory of work/life balance, Human Relations, 53, 6, 747-770.

[4] David Guest, Human Resource Management, Corporate performance and Employee well being : Building the workers into HRM, The journal of Industrial relations Vol. 44, No. 3, pp. 335-358, Sep. 2002.

[5] Dr. Vijaya, Hemamalini R., Organizational role stress and work-life balance among professionals, International journal of business Economics and management research, Vol. 2 Issue: 8, pp. 76-85, 2011.

[6] Edwards, J.R., & Rothbard, N.P. (2000). Mechanisms linking work and family :Clarifying the relationship between work and family constructs. Academy of Management Review, 25(1), 178-199.N P Myilswamy and R. Gayatri.

[7] Grzywacz, J.G., & Marks, N.F (2000). Reconceptualizing the work-family interface: An ecological perspective on the correlates of positive and negative spillover between work and family. Journal of Occupational Health Psychology, 5,111-126.

[8] Hill, E. J., Hawkins, A. J., Ferris, M., & Weitzman, M. (2001). Finding an extra day a week: The positive influence of perceived job flexibility on work and family life balance. Family Relations, 50(1), 49-65.

[9] Judy De Villiers and Elize Kotze, Work-Life Balance: A study in the Petroleum Industry, SA Journal of Human Resource Management 2003 I (3), 15-23.

[10] Kirchmeyer, C. (2000). Work-life initiatives: Greed or benevolence regarding workers'time? In C.L. Cooper & D.M. Rousseau (Eds.), Trends in Organizational Behavior. Chichester, UK: Wiley. pp. 79-93.

[11] Lockwood, N.R. (2003). Work/Life Balance: Challenges and Solutions, Society for Human Resource Management: Research Quarterly, 2, 1-10.

[12] Naithani, P. (2010). Overview of Work-life balance discourse and its relevance in current economic scenario. Asian Social Science, 6(6), 148-155.

[13] Sakthivel Rani, Kamalanabhan & Selvarani, Work Life Balance Reflection on Employee satisfaction, Serbian Journal of Management 6(1) 85-96, 2011.

[14] Scott, K., Moore, K. and Miceli, M. (1997). An exploration of the meaning and consequences of workaholism. Human Relations, 50, 3, 287-314.

[15] Voydanoff P. (2005). Toward a conceptualization of perceived work-family fit and balance: a demands and resources approach. J. Marriage Fam 67: 822–836.

[16] Work-Life balance and its effects on Employee Productivity-A case study of Merchant bank, Nigerian Research, Reserachclue.com, 2013.

[17] Zedeck, S. and Mosier, K. (1990). Work in the family and employing organization, American Psychologist, 45, 240-251.