CHAPTER – I

INTRODUCTION AND DESIGN OF THE STUDY

1.1 INTRODUCTION

The ‘nature of work, workforce, work place and psychological environment in organizations have undergone and will continue to undergo enormous change, bringing both opportunities and challenges for those involved and interacted in organizations behavior and organizational development.

Peter Drucker\(^1\) has rightly observed that to make the organization excellent one has to change the organization from flow of thinks to ‘ranks’, and ‘powers’ have to replace by mutual understanding and responsibility.

Human capital is proposed as one of the key resources on which companies build the competitive advantage. Since the beginning of the 1980’s a vast literature has been developed calling for a more strategic role for human resources. The need to initiate and change will place increasing emphasis on management leadership skills. Qualities of work life and employee job satisfaction are increasingly being identified as progressive indicators related to function and sustainability of business organizations. The rising complexity of the competitive business world and the cumbersome process of implementing effective social tacos make ethics a suggested strategic factor in protecting companies from unwanted disasters in parallel to the importance of ethics; QWL and job related outcomes such as satisfaction, have been associated with Human Resource (HR) and Organizational Development (OD).

The managers in the organization should learn to deal with a much diversified workforce characterized by changing attitudes and values. The will be more effective if they can develop sensitivity towards people in the organization. Today organizations have to ensure both quality of products and, services offered by them and the quality of work life for employees.

Organizations, in the past gave more importance to advanced technology for higher productivity surpassing the needs and mental state of their employees. These created a negative impact on the working environment among the employees. Thus it was
realized that societal support goes hand in hand with technical innovations. Quality of work life denotes all the organizational inputs which aim at the employee’s satisfaction and enhancing organizational effectiveness.

QWL was sued to stress the prevailing poor quantity of life at workforce and it was first defined them in terms of people’s reaction to work, particularly an individual’s job satisfaction and mental health. It also refers to favorableness or un-favourableness of the job environment for people.

Multifarious criteria that characteristic this industrial orientation include fair compensation, healthy working condition, opportunities for developing skills continued growth and security, conductive work environment, production of workers’ rights, social relevant, and balance between work and personal life. Later, quality come to be recognized as an approach or method used for improving work. It was viewed to be synonymous with methods such as job enrichment, self managed teams and labour managed committees.

There are generally two types of workers- some accept the life as they find it a job, which provides a living, is enough. But for some others, taking some a pay is not all” they want a change for self – fulfillment in workplace. Thus most of the employees in the organizations want this activity to be conducted, though a few reject the idea and do show alienation.

These workers generally do not want increased responsibilities, nor do they want to learn new skills. They only need a specially tailored approach to cope with their feelings. This minority should be permitted to continue in their respective skills and familiar to continue in their respective skills and familiar task so long as they perform satisfactorily.

A high quality of work life is essential for public sector organizations like the NLC, to continue to attract such skilled resources and retain them. QWL is a process in which organization recognizes their responsibility to develop job and working conditions that are excellent for the employee and organization. An effective leader influences the followers in a desired manner to achieve goals. It is evident from the literature different leadership styles may affect organization effectiveness and performance. The
interventions of QWL will effectively utilize the employee potentials by ensuring great participation and involvement of workers.

1.2 QUALITY OF WORK LIFE IN LARGE SCALE INDUSTRIES

The process of liberalization, globalization and its consequent competition upshot a tough circumstances for large scale industries like public sector organizations in India to face the global market. For acquiring a competitive edge in such a situation employee, the most important amongst all factors of production with positive attitude is a vital factor. Success of large scale industries depends on their pool of able and willing human resources, which is able to produce an output greater than its input, than material and financial resources.

The QWL is an indicator of how free the society is from exploitation, injustice, inequality, oppression and restrictions of the continuity of growth of man, leading to his development to the fullest. One of the reasons for growing importance of the QWL could be realization on the part of employees about their rights and growing unionism. Now workers are well aware of the latest development in the working environment, safety and welfare measures taken by the multinational and international organizations and also well educated. They do not completely depend upon the mercy of management for their existence.

Every employees associations has taken efforts to educate its members to realize their rights and also to make them understand what they expect from the management in return for what they contribute. It is not only monetary benefits. Other aspects like physical working conditions, Job enrichment, simplify in method of doing work and career developments are gaining importance rapidly. As such the workers expect the management to improve all these facilities thereby improving all these facilities which turn in improves themselves.

Especially large scale industries and multinational organizations are fast realizing the need for the improvement of the QWL. They established special department to study the existing facilities provided by the organization and also analyze the possible developments and improvements in the QWL through that they achieve the performance of the individual as well as improve the overall organizations performance. The
organizations conducted research to evaluate existing programmes to improve the QWL and framing the improvement in development programmes to enhance the QWL.

1.3 RELATED REVIEWS OF PREVIOUS STUDIES

The researcher has thoroughly undertaken a review of earlier studies pertaining to the present study of Quality of work life by referring different international and national journals and studies conducted by different individuals at different period. The level of perception on quality of work may be based on the profile of the employees. The level of perception on existence of quality of work life at NLC, its antecedents, and consequences of the QWL at the NLC may be associated with the profile of the non-managerial employees, Understanding of these will definitely help the organizations to improve the productivity and job satisfaction among non-managerial employees of the NLC.

According to Kulkarni (2013)\(^2\) that there are twelve important factors of quality of work life. These working factors are important for the development of organizations’ most valuable assets (employees). These factors are also useful for gaining competitive advantage in the market. These factors are communication, career development and growth, organizational commitment, emotional supervisory support, flexible work arrangements, family response culture, employee motivation, organizational climate, organizational support, job satisfaction, rewards and benefits and compensation. Likewise different authors have suggested different suggestions for the improvement of quality of work life.

Gayathiri and LalithaRamakrishnan (2013)\(^3\) in their work concluded that the identification of the measures of quality of life is indeed a difficult task, though there is a sort of common agreement on its concept of employee well being. Evidently there are objective (physical and structural design) factors that provide work place setting and intervening policy factors that affect work processes of employees.

Masoudetal., (2013)\(^4\) showed in their work that a positive and significant relationship between components of quality of work life and managers performance.

Satindersingh (2013)\(^5\) in this study revealed that the quality of work life and work-life balance has been framed up in view of its gained popularity with the major aim to have prosperity of society and the realization of fulfilling lives for its employees by
supporting the growth of every employee and the further development of the companies. The literature identifies its effect on various quality life conditions like Job Satisfaction, Work Stress, Career Growth, Turnover, Absenteeism, Appreciation and competitive environment in context with Work-life Balance and its practices and policies.

Muhammad Sajjad et al. (2013) found that employees cannot enjoy their job if they are working with tactless and inflexible manager.

Ceniza-Levine (2013) expressed that appreciation and trust over the employees are considered as the important variables to improve the performance of the employees in an organization.

Indumathy and Kamalraj (2012) in their research made an attempt to look into the Quality of Work Life among Workers with special reference to textile industry in Tirupur District – A textile hub and results has remarkably pointed out that the major factors that influence and decide the Quality of Work Life are attitude, environment, opportunities, nature of job, people, stress level, career prospects, challenges, growth and development and risk involved in the work and rewards.

Borah (2012) found out that job satisfaction is a pleasurable or positive emotional feeling of an employee.

Gupta and Sethi (2012) noted that Job satisfaction may be termed as a reaction of an individual towards job.

Jayakumar and Kalaiselvi (2012) suggested that Improving the Quality of Work Life, barriers and Issues of the QWL described. However, there is positive and significant relationship between the QWL and employees’ job satisfaction. The QWL practice involves acquiring, training developing, motivating and appraising for the best performance of the employees as per Organizational objectives. The QWL provides for the balanced relationship among work, non-work and family aspects of life.

Shalini et al. (2012) made an attempt to review the literature and the studies done in past to establish a relationship between the QWL, employee performance and career growth opportunities.
Aranganathan and Sivarethnamohan (2012)\textsuperscript{13} revealed that quality of work life was found to have significant relationship with work related factors. However the researcher has suggested few measures to obtain better results. Compensation structure of the employees needs to be revised periodically in time with the government pay scale according to their performance. The companies need to develop proper cleaning measures for removing scrap from the floor shops. Noise created by the machinery and other equipment need to be controlled through proper mechanism in the working premises to ensure safety. An industrial welfare officer can be appointed to look over the worker’s grievances, since the management cannot directly deal with all employee grievances. To improve the quality of work life, the management could motivate the employees through appreciations, distributing prizes and recognition, etc. Counseling and orientation programmes can be conducted for the employees by the organization, in order to communicate their mission, vision, policies, procedures, norms, values, culture and employee welfare programmes to reduce the confusions in the minds of the employees regarding the Quality of Work Life. Appropriate Induction training programmes shall be given to the employees, in order to provide them a clear picture about the organizational policies, procedures, culture and the expected performance standards from the employees which could ensure them the insights of the organization and required theoretical and practical skills for doing their job.

Noor and Abdullah (2012)\textsuperscript{14} indicated that there is a significant relationship between job satisfaction and quality of work life. Job satisfaction is found to carry more weightage in explaining the relationship among job satisfaction, job involvement and job security with quality of work life.

Ignore et al., (2011)\textsuperscript{15} showed that extra-work dimension had a direct effect on the quality of relationship with a leader, which in turn influenced the employee job satisfaction.

Mohan and Ashok (2011)\textsuperscript{16} explained that Stress is often developed when an individual is assigned a major responsibility without proper authority and delegation of power; interpersonal factors such as group cohesiveness, functional dependence, communication frequency, relative authority and organizational difference between role sender and focal persons.
Yolandi van der Berg (2011)\textsuperscript{17} suggested that social support specifically from the line manager and colleagues seems to play an important role within the QWL experienced by these employees and it is therefore recommended that the company be aware of and focus on positive interaction with its employees. Possible coaching and mentoring techniques might be considered to not only aid in the positive interaction with the employees, but also provide the sales representatives with the necessary work support from their managers. Listening and considering the employees proposals and suggestions as well as providing them with recognition will enhance the credibility these employees experience with regard to their managers. A proper reward and recognition scheme might assist to address this. Fair and unbiased team management practices will also foster a better trust relationship and increase the job satisfaction the employees experience within their role.

Ayesha et.al., (2011)\textsuperscript{18} indicated in their work that valuable implications for the banks that have growing interest in maintaining gender equity for attracting and retaining quality human resources. The study revealed significant differences in overall QWL and the determinants of the QWL like compensation, flexibility in work schedule and job assignment, attention to job design, and employee relations. So the private commercial banks should try to eliminate these differences to improve the overall QWL among all the employees regardless of sex differences.

Hosseini and Jorjatki (2010)\textsuperscript{19} concluded in their study that the career satisfaction, career achievement and career balance are not only the significant variables to achieve good quality of work life but quality of work life (QWL) or the quality of work system as one of the most interesting methods creating motivation and is a major way to have job enrichment. Which has its roots in staff and managers’ attitude to motivation category that is more attention to fair pay, growth opportunities and continuing promotion improves the performance of staffs which in turn increases QWL of social insurance employees in Tehran?

Drobnic et.al., (2010)\textsuperscript{20} suggested that employees that have secured jobs and pay would feel comfortable at the work place and this affects their quality of life. Meeting socially determined needs and fair compensation can create an appropriate work environment.
Adhikari and Gautam (2010)²¹ identified that adequate pay and benefits, job security, safe and health working condition, meaningful job and autonomy in the job. Measures of Quality of Work Life include - (i) increased worker involvement, participation and power, (ii) Increased emphasis on employee skill development, (iii) Increased autonomy for action and decision making at worker level and (iv) Reduced status distinctions among levels in hierarchy.

Skidmore (2010)²² found that against the odds a public sector organization can attract and retain a high quality workforce in a highly competitive market. However, researcher

Pailleet. et al., (2010)²³ found that "more than thirty five percentage of the employees consider lack of recognition of work as the biggest hindrance to their productivity. According to them, rewards and recognition for achievements at workplace act as morale booster, which in turn increase their productivity."

Normala and Daud (2010)²⁴ Investigated the relationship between Quality of Work Life and Organizational Commitment Amongst Employees in Malaysian Firms and say that the quality of work life of employees is an important consideration for employers interested in improving employee’s job satisfaction and commitment.

Dawley et.al., (2010)²⁵ indicated that employee turnover increases if there is mismatch between management and employees Workplace flexibility helps to improve overall employee flexibility and empowerment to have work-life balance which reduces turnover. Researchers found that —against the odds; a public sector organization can attract and retain a high quality workforce in a highly competitive market (Curson J.Y., and Skidmore T., 2010). However, as far as professional women and their quitting from the jobs are concerned Balasubramanian L. further quotes that —another important reason for professionals, especially women quitting their job is relocation after marriage, or the call of being a mother.

Normal Daud(2010)²⁶ conducted a research to investigate the relationship between the QWL and organizational commitment, the result showed that there was a relationship between the QWL and OC (four components – participants, social integration, growth and development, supervision, and pay and benefits were found to have a positive relationship with commitment)
Vanmathy Anbarasan and Mehta Nikhil. (2010)\textsuperscript{27} identified the contextual moderation of some of the behavioural and attitudinal dimensions like relationship management, organizational citizenship behavior, job satisfaction, affective commitment, stress management, organizational relationship management, organizational citizenship behavior, job satisfaction, affective commitment, stress management and performance, as interlinking variable between EI and the QWL.

Non managerial perspective of quality of work life QWC expectations of non managerial employees, found that a substained scope for improvement in non managerial motivation in a number of areas as deposed by a marked mismatch in employee expectation and perceives QWL existence in organization.

Lakshmi Jagannathan and Akhila. (2009)\textsuperscript{28} reveal that goal attainment, supportive dynamic structure, and holistic job factor have a positive influence on the QWL of the salesmen, whereas balanced target setting factor has a negative influence on the QWL of the salesmen.

Vanmathy and Nikil (2009)\textsuperscript{29} identified few dimensions of the QWL namely economic benefits, work itself, working conditions, individual perspectives, opportunities for development, work-life balance, organizational factors, relationship management and social identity. The perceived QWL among the finance sales representatives is low compared to representatives of banking, pharmaceuticals and insurance. Discriminant analysis proved that the sales representatives among the four sectors differ only in their perception about employee satisfaction and continuance.

Singh and Singh (2009)\textsuperscript{30} found in their study that there is significant mean difference in satisfaction with job, satisfaction with management and overall satisfaction between high and low job positive stress, personal positive stress and total positive stress.

P.Kameswara Rao and P.Venugopal (2009)\textsuperscript{31} suggested in their work that four dimensions of QWL labeled favorable work environment, viz., personal growth and autonomy, nature of job, and stimulating opportunities and co-workers. (Found that aspiring Indian Job entrants expect a relatively high level of security, career opportunities, personal development and reward incentives in their working environment)
By their study confirmed the role of quality of work life as an important mediator between emotional labor work – to family interface.

In his work revealed that the employees spent more time in social participation than organizationally employed and also found differences between self employed on five of the six indicators of quality of work and non work life.

Neal chalofsky (2008) identified employees of the organizations are benefited remakes of the work life culture and work hand to recognized and support employees work, family, leisure, personal and community needs.

Dolan et al., (2008) focused on examining the effect of supervisor support, intrinsic and extrinsic job demands as well as motivation on overall quality of working life and negative health consequences by using job content questionnaire of Karasek and Colleaques (1990).

In their research revealed that it is difficult to separate home and work life in an increasing competitive environment.

By their work found that industry experience moderated the job satisfaction, disinclination to quit relationship for most of the job satisfaction dimensions among the sales persons in the pharmaceutical company in India.

Gani (2007) indicated that the quality of work life in the JK tyre is good. The employees with good quality of work life tend to prove themselves as an asset for the organization by developing the knowledge and skills.

Raymond Nam cam Trall, et al., (2007) identified that contextual factors affect the quality of work life and work attitudes of gay men.

Jeff Hyman and Jnliette Summers (2007) proved that employees, whether individually or acting collectively, have been able to make any significant impressions on the work life agenda as of companies.

Joshi (2007) revealed that the level of satisfaction of women employees with the QWL in their respective organizations was quite high inspite of the overall work life conditions as provided by the company/management being only average. While the wider
issues having implications for the entire workforce were taken care of in their negotiation by the existing union of which they were members the women specific issues were generally ignored.

Worrall and Cooper (2006)\textsuperscript{38} reported that a low level of well-being at work is estimated to cost about five to ten per cent of Gross National Product per annum, yet the QWL as a theoretical construct remains relatively less explored within the organizational psychology research literature.

RaduanChe Rose et al. (2006)\textsuperscript{39} analysed the QWL and career-related dimensions in their organization. The results indicate that three exogenous variables are significant: career satisfaction, career achievement and career balance.

Dyrbye et al. (2006)\textsuperscript{40} reported that personal life events are strongly correlated with burnout and has adverse effects on an individual’s performance. It also reported that burnout and higher job related stress are most responsible factors for job dissatisfaction, decision to leave work field and reducing the number of working hours.

Panchanathan and Pragadeeswaran (2006)\textsuperscript{41} found out in their research that, the quality of life has been conducted among co-operative mill employees in a public sector unit. Results indicate that the quality of life has been improved by yoga practices. Further the study also showed that the quality of life decreased when the age increased for the non-yoga practitioners whereas the quality of life could be maintained by the yoga practitioners.

Rishy Roy (2006)\textsuperscript{42}, in this study identified that, good quality of work life promotes job performance and poor quality of work life demotes job performance.

Through their work Martin Lees and Sandra Kearns (2005)\textsuperscript{43} identified six areas of improvement namely communication, attendance management program, support, practice of leadership, recognition and non-monetary compensation and nurses and physician group.

Beth Brooks and Money Ann Anderson (2005)\textsuperscript{44} suggested that basic set of needs and work environment characteristics that are university important for all nurses.
Saklani (2004)\textsuperscript{45}, indicated that apart from monetary considerations, employees in India accord a high value to the factors that satisfy self-esteem and self-actualization needs of a higher order.

Lakhwinder Singh Kang and Raghbir Singh (2004)\textsuperscript{46}, found that the structure of organizational factors, have the potential to produce stress among employees. Poor organizational structure and climate, poor interpersonal relations, work overload, work inhibitors, lack of resources, unmet financial needs and job insecurity, inconsiderate superior, rigid rules, role ambiguity and monotonous job have been identified as the major organization factors.

Huang Tung-Chun (2003)\textsuperscript{47} found that level of satisfaction with one’s work environment is the most influential determinant of the overall QWL of Korean government employees. Quality of work life is a mediator between emotional labor and work family interface.

Elmuti (2003)\textsuperscript{48} indicated Internet Aided Self Managed (IASM) team participants quality of work life. The performance resulted in a positive and substantial impact on employee productivity, efficiency, quality and overall performance.

Saklani (2003)\textsuperscript{49} identified thirteen QWL dimensions from 64 variables. These are adequate and fair compensation, Fringe benefits and welfare measures, job security, safe and healthy physical environment, workload, opportunity to use and develop human capacity, opportunity for continued growth, human relations and social aspect of work life, participation in decision-making, reward and penalty system, equity justice and grievance handling, work and total life space, and image of organization in the society.

Blair (2002)\textsuperscript{50} suggested that although increasing recruitment of nurses and improved compensation and benefits strategies may offset hospital nurses shortage in the short term, improving quality of work life may be a more practical and long term approach to improving hospital nurse retention.

JosephSirgy.Met al. (2001)\textsuperscript{51} reported that financial and non financial resources are important resources to satisfy the needs of the employees in an organization. The need satisfactions results in satisfaction with life in general.
Saipin and Supit (2001)\textsuperscript{52} deal with the quality of work life and organizational commitment. The results reveal that the levels of the staffs, quality of work life were moderate. Personal characteristics like sex, age, status, education, position, staff salary, and line function caused no difference. All factors of quality of work life had positive correlation with organizational commitment.

Thomas. et al., (2001)\textsuperscript{53} suggested four dimensions of quality of work life. They are favourable work environment, personal growth and autonomy, nature of job, and stimulating opportunities and workers.

MagidIgbaria et al., (2001)\textsuperscript{54} showed that the significant variation in the level of job involvement displayed by information system employees and differential patterns of relationship among the study variables for information system personnel with low, moderate, and high level of job involvement. The findings indicate that involvement serves as a complex moderator role in a pattern of relationship of work experiences and of job characteristics with career expectations and career outcomes. In some cases, high level of job involvement tends to increase the beneficial effect of work experience on the quality of work life.

David et al., (2001)\textsuperscript{55} showed that the objectively identifiable traits of an organization pay, benefits and supervisor style – play the major role in determining quality of work life. Decision makers with an interest in improving quality of work life in a health care institution can focus on these traits and pay correspondingly less attention to enhancing staff autonomy or discretion.

Lau (2000)\textsuperscript{56} showed that service organizations that emphasize quality of work life for their employees tended to have better sales growth and return on asset growth over a period, its contrast with S&P 500 companies.

Hossain and Islam (1999)\textsuperscript{57} investigated the correlation between the QWL and job satisfaction, the QWL and performance. The findings reveal that there was significant positive correlation between the QWL and job satisfaction, the QWL and performance, and job satisfaction and performance. Perceptions of the QWL and job satisfaction were significantly higher among the employees in small organizations than in larger ones.
Johnson (1999)\textsuperscript{58} measured whether quality of work life companies have a higher growth rate, by using five year trend of sales growth, asset growth and maximum sustainable growth. The study confirms that there is a positive relationship between quality of work life and business performance.

Bruce et al., (1999)\textsuperscript{59} indicated that there is a considerable positive relationship between quality of work life and business performance.

Lau and Bruce (1998)\textsuperscript{60} found that the high quality of work life enhances the organizations’ growth and profitability.

Naval Karrir and Amulya Khurana (1997)\textsuperscript{61}, Indicated that the educational qualifications of the managers, size of the organizations, job involvement and job satisfaction have emerged as significant predictors of quality of work life.

Venkatachal and J.Velayudhan (1997)\textsuperscript{62} examined the empirical dimensions of quality of work life. The aim of the study is to see whether there is any significant difference among executives (N:227) and non-executives (N:173) in a public sector steel manufacturing company in their perception of quality of work life dimensions. The ANOVA results show a significant difference among executives and non-executives on the dimensions – autonomy, personal growth opportunity, workers control, and concern about organization performance, quality of work life feelings and quality of social life. There was no difference among executives and non-executives on quality of work life values, work complexity and top management support.

Naval and Amulya (1997)\textsuperscript{63} revealed that significant correlation was found between quality of work life of managers and size of organizations. There is significant difference in managers from large size organizations with respect to quality of work life followed by those from private and cooperative sector organizations.

Patricia (1995)\textsuperscript{64} indicated that classroom practices differed significantly among teachers who hold different perceptions about the quality of work life. The findings also suggest that interventions aimed at enhancing quality of work life based on the premise that more satisfied teachers may be more receptive to change or may be ill-conceived.
Ghani. (1995)\textsuperscript{65} indicated that adequate financial returns from the job, besides desire of job security, better working conditions and advancement opportunities continue to be the major considerations in the employees of working lives.

Muraleedharan and Krishnavani (1994)\textsuperscript{66} found that there exists a gap between the intent and the content of the legislative provisions relating to the quality of work life and actual practice.

Igbaria et al. (1994)\textsuperscript{67} indicated that job involvement plays a high role on quality of work life of an employees in an organization.

Peter In this work (1994)\textsuperscript{68}, found out that positive experiences contribute only to the morale whilst negative experiences contributed only to psychological distress. These findings challenge conventional wisdom and suggest that it is not possible to enhance morale by reducing negative experiences nor it is possible to reduce psychological distress by focusing on positive experiences.

SubrateshGhosh (1992)\textsuperscript{69} concluded that the top management commitment to the quality of work life and human resources development is a very important factor conducive for the growth of high quality of work life.

Abraham. et al., (1992)\textsuperscript{70}, found that the insight from cross cultural quality of work life studies has the potential of going beyond fostering the development and practice of a true “art of management and change”. That might provide a better understanding of the dynamics within which organizational change and development occurs in the globally changing workplace.

Stephen (1991)\textsuperscript{71} examined the direct impact of quality of work life on human resource outcomes. Quality of work life is found to significantly reduce absenteeism, minor accidents, and grievance and quits.

David Efraty et al.,\textsuperscript{72} found that the quality of work life quality of life and life satisfaction and need satisfaction play significant and important role in affecting organizational commitment.

Elizur and Duv (1990)\textsuperscript{73} concluded that all quality of work life measures showed positive correlation with participation in quality circle, except that of physical activity.
Quality circle participants may perceive quality circle activities as an extension and enrichment of their jobs.

Robert et al. (1989)\textsuperscript{74} examined the impact of computerization on three broad areas, namely, productivity, quality of work life and attitude towards computers. For this study 169 respondents were distributed with three questionnaires on both pre-computerization has degenerative effects on quality of work life and positive effect on productivity.

Mitcheel et.al (1986)\textsuperscript{75} have analyzed the impact of quality circle program on quality of work life attitudes and productivity and absenteeism behaviours among direct labour employees in a manufacturing firm. Participants (N=46) and non-participants (N=46) were surveyed before and after implementation of relation between quality circle participations and changes were witnessed in quality of work life perceptions in areas directly involved in quality circle activities but not in more general work life areas. Given that participants quality of work life scores tend not to change and non-participants tended to report decreases in quality of work life from before to and after the implementation of quality circle program. It was suggested that the quality circle involvement acts more to provide social support to suffice participants from negative contextual factors than to enhance quality of work life. Organizational records also are assessed from 6 months after adoption of the quality circle program and showed that quality circle participation leads to improvements in employee productivity and absenteeism rates.

Martin and David (1986)\textsuperscript{76} indicated that the quality of life program may create a favorable changes, in the conditions within which local union officials carry out their roles.

Sorenson et al (1985)\textsuperscript{77} demonstrated that quality of work life programs can be successful in small organizations when they are well planned and receive sustained commitment of management.

Peter. F et al. (1985)\textsuperscript{78} concluded that the relationship of quality of work life programs by the employee participation increase the organizational effectiveness and productivity; changes in the level of participation system are measurable and can be linked to productivity.
Singh (1983) found that quality of work life is perceived to be poorer by private sector employees in comparison to public sector employees. Quality of work life was operation lied for the study as human growth exciting work place, creativity and innovativeness concern for people and democratization of the work process.

David et al (1980) developed model based on an integrative bargaining framework, emphasizes and importance of ownership, project goals, consultant effectiveness, functioning of a cooperative labour management committee, and organizational context. Data collected from participants in 16 labour management change projects are analyzed to test the model. The data are generally supportive of the quality of work life model.

Sekaren and Wagner (1980) identified that experiencing meaningfulness of job is the single most important contributor to a sense of competence for employees in both countries because sense of competence has been highly correlated with quality of work life.

James (1978), has conducted an empirical study to examine the dimensions of quality of work life. The responses of 95 managers to 42 items are used to derive varimax factors obtained from rotating the first five differs in terms of the mean scores of the two sectors and employee satisfaction also differs.

Robert Kraut, et al., focused on creating a more participatory, team-oriented, open surfacing of problems approach in place of rigid, bureaucratic civil service management system. The findings indicate that the public sector quality of work life will never be free from politics but it is possible to make politics to work for quality of work life.

Consequence of outsourcing strategies on employee quality of work life, attitude and performance Elmuti, JulainGrunewall and DerejeAbebe indicated that involvement in the outsourcing program in this case was negatively related to perceive changes in satisfaction with opportunities, for participation at work, to accomplishment something work while at work and enhancing opportunities and skills for advancement in the organization.

Even though, there are so many studies related to the QWL at corporate companies there is no exclusive study on the QWL in public sector organization like NLC. Hence, the present study has made an attempt to fill up the research gap.
1.4 NEED FOR THE STUDY

In India, large scale industries play a vital role in resolving the problems of poverty, inequality, unemployment and underemployment. The top level authorities of industries are conscious of the fast developments in science and technology and the growing demands of modern organization. Changing composition of workforce in organizations and its ever rising aspirations has compelled management everywhere to be more and more concerned about the quality of life at the work place. Changes in economic policies, globalization of the economies of the world and the compulsion of facing competition both in domestic and international markets have been posing a serious challenge to all concerned like employees, employers and government. This coupled with ever changing technology and increased access to information has necessitated studying organizations with respect to their productivity, efficiency and quality of service rendered. All this demand new work culture, employee motivation commitment to job and organizational goals.

The NLC is one of the biggest public sector enterprises in India. If the public sector organization like the NLC fails to respond to the demand for the QWL enhancement of non managerial employees, it will eventually be placed at a competitive disadvantage compared with private sector organizations. However, we have very little information at the grass root level to comprehend what QWL means in the Indian context. In organizational studies normally the focus is on high status managerial employees. This study attempts to delineate the major dimensions of the QWL from a subjective perspective, and thereby evaluate the quality of life experienced by public sector organizations employees. And also it is an attempt to understand the phenomenon under consideration from the non-managerial perspective. These are the specific aspects considered, which the researcher attempts to address in this study.

1.5 STATEMENT OF THE PROBLEM

In recent years Industries in India have registered tremendous growth. The Public sector industries occupy an important place in our economy both in view of employment they generate and the contribution they make to the national product. In India, public sector organizations performance is important for overall economic growth of the nation. The present large scale industries and economic scenario shows that corporate managers’ confronted with the challenging task of raising the productivity and profitability of their
organizations in the face of global competition. With rising levels of education and consequent aspirations and governing employee consciousness of their rights, it has become imperative for Indian public sector organizations to be more and more concerned about the quality of work life. Changes in economic policies, globalization of the economics of the world, there is a need to improve the performance of work organizations in India. In Indian organizations, issues relating to biological and social needs are more important in comparisons to others. Organizational studies suggest that, in the Indian context, environmental factors (such as physical environment safety and other working conditions) and relation factors (such as, work group relations, and labour management relations) are more important with regard to quality of work life. This is in contrast to workers in other countries where job satisfaction (like meaningful work) is more significant in relation to Quality of work life. Moreover, many studies focus on managerial employees. As of today there has not been any work life improvement programme for non managerial employees in public sector organizations. To attain the ultimate goal of enhancing the quality of work life of employees in general, it is necessary to broaden the framework of this movement so as to encompass the vast majority of population working in the public sector organizations. A study on Quality of Work Life (QWL) among the employees of the NLC, Neyveli will be beneficial to NLC authorities and government for improving the quality of work life of all public sector organizations and thereby improving their social environment with balanced development in the Indian economy.

1.6 OBJECTIVES OF THE STUDY

1. To reveal the profile of the non-managerial employees in the NLC and to examine the association between the demographic variables and the Quality of Work Life,
2. To determine highly influencing variables on the Quality of Work Life among non-managerial employees at the NLC,
3. To assess the perceptions of non-managerial employees towards the elements of the Quality of Work Life,
4. To study the impact of various dimensions that affect the Quality of Work Life and evaluate the effects of the Quality of Work Life and
5. To identify the factors having potential for enhancing the Quality of Work Life for non-managerial employees at the NLC.
1.7 HYPOTHESES

1. There is no significant difference between the perception scores of dimensions of quality of work life and the demographic profile of non-managerial employees in the NLC.

2. There is no significant difference between the stress factors impact on QWL and demographic profile of non-managerial employees in the NLC.

3. There is no significant difference between the organization commitment factors impact on QWL and demographic profile of non-managerial employees in the NLC.

4. There is no significant difference between the job satisfaction factors impact on QWL and demographic profile of non-managerial employees in the NLC.

1.8 OPERATIONAL DEFINITION OF CONCEPTS

**NLC- Neyveli Lignite Corporation:** It is a large public sector mining company located in Tamil Nadu, South India.

**QWL-Quality of Work Life:** It is the extent to which employees can enhance their personal lives through their work environment and experiences.

**Job Satisfaction:** It is defined as an unidimensional subjective construct representing an overall emotional feeling individuals have about their job as a whole.

**Job Enlargement:** It means increasing the scope of a job through extending the range of its job duties and responsibilities generally within the same level and periphery.

**Globalization:** It is the process of international integration arising from the interchange of world views, products, ideas, and other aspects of culture.

**Organizational Climate:** It is the process of quantifying the “culture” of an organization, it precedes the notion of organizational culture. It is a set of properties of the work environment, perceived directly or indirectly by the employees, that is assumed to be a major force in influencing employee behavior.

**Perception:** It is the organization, identification and interpretation of sensory information in order to represent and understand the environment.
Organizational Citizenship Behavior (OCB): defines it OCB as “individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promote.

Job Stress: It is stress involving work. Stress is defined in terms of its physical and physiological effects on a person, and can be a mental, physical or emotional strain.

Organizational Structure: It consists of activities such as task allocation, coordination and supervision, which are directed towards the achievement of organizational aims.

Organizational Commitment: It is the individual’s psychological attachment to the organization.

Stress Management: This refers to a wide spectrum of techniques and psychotherapies aimed at controlling a person's levels of stress, especially chronic stress, usually for the purpose of improving everyday functioning.

Risk Taking: It is the potential that a chosen action or activity (including the choice of inaction) will lead to a loss (an undesirable outcome). The notion implies that a choice having an influence on the outcome sometimes exists (or existed). Potential losses themselves may also be called "risks". Any human endeavor carries some risk, but some are much more risky than others.

Non-managerial employees: Any employee who does not belong to a managerial position in the organisation

Tolerance: a fair, objective, and permissive attitude toward those whose opinions, practices, race, religion, nationality, and the like differ from one's own; freedom from bigotry.

Conflict: process in which one party perceives that its interests are being opposed or negatively affected by another party.

Job Design is the application of Socio-Technical Systems principles and techniques to the humanization of work.
**Career Development**: the total constellation of psychological, sociological, educational, physical, economic, and chance factors that combine to influence the nature and significance of work in the total lifespan of any given individual.

**Job Security**: is the probability that an individual will keep his or her job; a job with a high level of job security is such that a person with the job would have a small chance of becoming unemployed.

**Organisational Change**: is an approach to shifting / transitioning individuals, teams, and organizations from a current state to a desired future state.

**Working Conditions**: Occupational health and safety is a cross-disciplinary area concerned with protecting the safety, health and welfare of people engaged in work or employment.

**Quality Circle**: is a volunteer group composed of workers, usually under the leadership of their supervisor (or an elected team leader), who are trained to identify, analyze and solve work-related problems and present their solutions to management in order to improve the performance of the organization, and motivate and enrich the work of employees.

**Stratified Random Sampling**: In a stratified sample, first subdivided the N items in the frame into separate subpopulations, or strata. A stratum is defined by some common characteristic. You select a simple random sample within each of the strata, and combine the results from the separate simple random samples. This method is more efficient than either simple random sampling or systematic sampling because you are ensured of the representation of items across the entire population. The homogeneity of items within each stratum provides greater precision in the estimates of underlying population parameters.
1.9 PROFILE OF THE STUDY AREA

Neyveli is a mining and power generation township in Cuddalore district in the Indian state of Tamil Nadu. It is located at 11.30° N - 79.29° E. It is fifty two kilometers inland from the Bay of Bengal, west of Pondicherry and 197 kilometers south of Chennai, located eight kilometers west of Vadalur. The Neyveli Township was developed after mining of lignite started under the Neyveli Lignite Corporation (NLC) in 1956 some ten kilometers north of the original Neyveli village. Today the township covers 53 square kilometers provide around 18,000 houses for the employees. The Neyveli Lignite Corporation is a public sector enterprise operating out of Neyveli. A large percentage of the thermal power generated in Tamil Nadu comes from the power plants in Neyveli, more than 2,500 MegaWatts. The town of Neyveli is well known to locals for its goat herding history. Goats from all over the Cuddalore district are brought to Neyveli by goatherders. The Neyveli Lignite Corporation was formed as a Corporate Body in 1956 under the Government of India. It is still a Central Government Public Sector Undertaking (PSU). Mining of first lignite seam started in 1962. The first thermal power station was commissioned in 1962 with a capacity of 600 MW. The current capacity of the thermal power stations in Neyveli exceeds 2500 MW. It is well connected by road along the Chennai-Thanjavur NH 45C National Highway and Cuddalore-Salem SH 10 State Highway. A dedicated rail track with a Railway station was constructed to transport Lignite, heavy machineries for the mining and the power generation industries.

As of 2011 India census, Neyveli had a population of 1,28,133. Men constitute 51 percent of the population and Women 49 percent. Neyveli has an average literacy rate of 78 percent, higher than the national average of 59.5 percent: male literacy is 83 percent, and female literacy is 72 percent. In Neyveli, 12 percent of the population is under 6 years of age. Neyveli has a huge non managerial employee’s population of 34,000. The demographics of Neyveli can often be classified as Cosmopolitan. Most of the people living in the township are not native to the place and not even native to Tamil Nadu either in most cases and can be called as expatriates from states other than Tamil Nadu. The people speak many languages including, Tamil, Hindi, Malayalam, Kannada, Telugu, Oriya, Marathi, Gujarati and more, as most of the population is diversified and come for various parts of India. The rich diversity can be identified from the presence of services and cultural centres for the different communities.
1.10 METHODOLOGY

The research methodology shows the methods to be followed in the research activities starting from investigation to presentation of research report. It includes the research design, population of the study, sampling framework, construct development, data collection, framework of analysis and limitations. The methodology followed in the present study is summarized below.

1.10.1 Research Design

The research design is the overall plan of the research work. It is a blue print of the activities to be taken in the research work. It includes the way in which the collection, measurement and analysis of the data are done in the present research. The applied research design of the present study is purely descriptive in nature because of the following reasons namely it has its own confined objectives and also predetermined methodology. It is portraying the profile of non-managerial employees, various factors leading to the QWL, outcomes of the QWL, impact of the QWL on the various outcomes and the non-employees’ expectation on enhancement of the QWL.

1.11 POPULATION AND SAMPLE OF THE PRESENT STUDY

The population of the present study is the non-managerial employees at the NLC, Neyveli. The numbers of non-managerial employees are given in Table 1.1.
TABLE 1.1

Population and Sample of the Study

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Unit</th>
<th>Number of non-managerial employees</th>
<th>Number of responded non-managerial employees</th>
<th>No. of sample (in per cent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MINES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mine-I</td>
<td>1436</td>
<td>144</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Mine-IA</td>
<td>912</td>
<td>91</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Mine-II</td>
<td>2954</td>
<td>295</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>POWER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Thermal Power Station-I</td>
<td>1406</td>
<td>141</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Thermal Power Station-II</td>
<td>1207</td>
<td>121</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7915</td>
<td>792</td>
<td>10</td>
</tr>
</tbody>
</table>

Source: Annual Report of NLC 2010-2011

Stratified sampling method has been applied for this Research. In the NLC the overall organization is divided into five strata. They are Mine-I, Mine-IA, Mine-II, Thermal Power Station-I and Thermal Power Station-II. From each strata 10 percent of total non-managerial employees has selected for the study. The lottery method has applied for choosing the sample for each strata.

The total number of non-managerial employees in the NLC is 7915. But the number of samples on the questionnaire among the non-managerial employees were selected only 10 per cent. Hence, these 792 non-managerial employees had been taken as a sample for the present study.

1.12 SOURCES OF DATA

The present study is completely based on the primary data. The secondary data collected from the books, journals and magazines were used to write the conceptual
framework of the study and also the review of literature. The primary data are collected with the help of structured questionnaire.

1.13 CONSTRUCT DEVELOPMENT

The questionnaire had been prepared on the basis of the objectives of the study. It is divided into four important parts. The first part of the questionnaire covers the personal, social and economic profile of the non-managerial employees. The second part of the questionnaire includes various dimensions of the QWL among the non-managerial employees namely pay and compensation, training and development, recognition, career development, job security, job content, safety measures, work schedule, inter-personal relationship and work environment. The part three of the questionnaire concentrates on the measurement of stress and the QWL, job satisfaction and QWL, Organisational Commitment and the QWL and Organisational climate & QWL among the non-managerial employees. The part four of the questionnaire includes the non-managerial employees’ opinions towards effects and enhancement of the QWL.

A pilot-study was conducted among 50 non managerial employees of NLC. Based on the feedback from the above, certain modifications, additions and deletions had been carried out to prepare the final questionnaire.

1.14 VALIDITY AND RELIABILITY OF INSTRUMENT

1.14.1 Validity

The findings of a study take credence from its validity and reliability. Saunders et al (2007) observe that these two constitute the credibility of a study. Validity confirms whether the findings are valid. Neuman (2006) in qualitative data analysis refers to validity as how the researcher’s data and analysis accurately represent the realities in the field. He gives four points on the authentication and trustworthiness of a research project:

Ecological Validity: how the researcher’s data represent the response of respondents and the extent to which the researcher serves to attract respondents.

Natural Validity: in-depth account of a logical procedure.

Member Validation: confirmation of researcher’s report by the elements he studied.
Competent Insider Performer: researchers’ participation as an element of studied population.

The validity of this study is rooted in the close alignment of the research questions, frame of reference and the design and purpose of the questions administered in questionnaires distributed to the customers. The data gathered are linked with the issues raised in the research questions. With a well-calculated approach to sampling, questionnaires collected from the employees, cross-checking of data and alignment of the research questions to respondents’ answers, the findings of the study reflects the general situation of quality of work life of the employees.

1.14.2 Reliability

This is about the results of each investigation, which have to be reliable. (If nothing changes in a population between two investigations for the same purpose, it is reliable) Robson, (1993) asserts that there may be four threats to reliability:

Subject error: has to do with the time the interview is carried out. It is of great importance to select a neutral time and date.

Subject bias: is a great problem in organizations where the management is of an authoritarian character and the interviewee(s) might say what the manager wants them to say, not what they feel.

Observer error: can be lessened with a high degree of structure to the interview schedule.

Observer bias: this is a question about how the interviewer interprets the data received.

The researcher is careful in choosing the time. Though the collection of data can happen only on working days the researcher has given sufficient time hence the chance for subject error can be minimized. Similarly subject bias is carefully avoided explaining the respondents not to relate the responses with the personal traits / characters of manager or employees.
Observer error and observer bias are carefully avoided by explaining the right meaning of the questions and by rightly interpreting the questions thereby to avoid misunderstanding. Moreover a minimum (Cronbach, 1951)’s Alpha value of 0.7 indicates reliability of the questionnaire.

1.14.3 Summary of Validity and Reliability

<table>
<thead>
<tr>
<th>VALIDITY</th>
<th>RELIABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Validity of data from different sources</td>
<td>Coherence of procedure</td>
</tr>
<tr>
<td>Validity of data from literature review</td>
<td>Appropriate sampling frame</td>
</tr>
<tr>
<td>Logical data collection procedure</td>
<td>Appropriate frame of reference</td>
</tr>
</tbody>
</table>

**TABLE 1.2**

Reliability Item Statistics For Quality of Work Life Scale

<table>
<thead>
<tr>
<th>Mean for QWL</th>
<th>Quality of work life Scale</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item Means</td>
<td>3.779</td>
<td>40</td>
</tr>
<tr>
<td>Item Variances</td>
<td>1.077</td>
<td>40</td>
</tr>
<tr>
<td>Inter-Item Covariance’s</td>
<td>0.54</td>
<td>40</td>
</tr>
<tr>
<td>Inter-Item Correlations</td>
<td>0.504</td>
<td>40</td>
</tr>
</tbody>
</table>

Above table infers that the reliability of the quality of work life scale is to analyze the inter-item correlations. Hair et al (1998) suggests that the Inter-item correlation should exceed 0.30 for the data to be reliable. The item statistics presents the current study statistics where Inter-item correlation is 0.540 for all ten quality of work life scale.
### TABLE 1.3

Cronbach’s Coefficient of Ten Quality of Work Life Dimensions

<table>
<thead>
<tr>
<th>Quality of work life scale</th>
<th>Number of Items</th>
<th>Cronbach’s alpha value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pay and compensation</td>
<td>4</td>
<td>0.848</td>
</tr>
<tr>
<td>Training development</td>
<td>4</td>
<td>0.804</td>
</tr>
<tr>
<td>Recognition</td>
<td>4</td>
<td>0.857</td>
</tr>
<tr>
<td>Career development</td>
<td>4</td>
<td>0.849</td>
</tr>
<tr>
<td>Job security</td>
<td>4</td>
<td>0.862</td>
</tr>
<tr>
<td>Job content</td>
<td>4</td>
<td>0.882</td>
</tr>
<tr>
<td>Safety measures</td>
<td>4</td>
<td>0.821</td>
</tr>
<tr>
<td>Work schedule</td>
<td>4</td>
<td>0.796</td>
</tr>
<tr>
<td>Inter-personal relationship</td>
<td>4</td>
<td>0.864</td>
</tr>
<tr>
<td>Work environment</td>
<td>4</td>
<td>0.756</td>
</tr>
</tbody>
</table>

As shown in above table quality of work life for the total scale has resulted in good internal consistency, which is evidenced by alpha method. The reliability assessment through coefficient alpha for each construct is also well above the recommended level of conventional 0.70. It suggests a high internal consistency and reliability of the NLC employee’s quality of work life scales.

### 1.15 FRAME WORK OF ANALYSIS

The collected data had been processed with the help of appropriate statistical tools. The selection of statistical tools is based on the nature of data and the objectives of the study. The included statistical tools and its objectives are given below:
1.15.1 Descriptive analysis

Descriptive analysis is an important tool used to assess the distribution of respondents in each category. As it is expressed in percentage, it facilitates comparison. This analysis is carried out for non-managerial employees and suitable tables were also drawn to facilitate the understanding of the readers.

1.15.2 Reliability Analysis

The extent of reliability of the variables included in each factor or construct has been tested with the cronbach alpha (Nunnally, 1978). In the present study, it has been used to test the reliability of variables in each construct developed in the study. It includes the opinions/perception of various variables related to the QWL, Job satisfaction, organizational climate, organizational commitment among the non-managerial employees.

1.15.3 Exploratory Factor Analysis

Exploratory factor analysis identifies common dimensions of factors from the observed variables that link together the seemingly unrelated variables and provides insight into the underlying structure of the data. Varimax rotation is one of the most popular methods used in the study to simplify the factor structure by maximizing the variance of a column of the pattern matrix. The common factors themselves are expressed as linear combinations of the observed variables. (Nalini, 2006).

Factor Model

\[
\text{Factor Score} = W_{i1}X_1 + W_{i2}X_2 + \ldots + W_{ik}X_k
\]

Whereas

\[
F_i = \text{Estimate of the } i^{th} \text{ factor}
\]

\[
W_i = \text{Weight of factor score co-efficient}
\]

\[
X_i = \text{Variables included}
\]

\[
K = \text{No. of variables included}
\]
In the study, factor analyses have been applied to narrate the variables related to the dimensions of Quality of Work life among non-managerial employees in the NLC.

1.15.4 Confirmatory Factor Analysis (CFA)

The Confirmatory Factor Analysis has been used to analyse the reliability and validity of the variables included in each factor. The convergent validity of the factor was assessed by three measures: item reliability, construct (composite) reliability and Average Variance Extracted (AVE) (Fornell and Larcher, 1981). Item validity was evaluated by the size of the standardized factor loading of the variables on their corresponding factors. The loading should be at least 0.60 and ideally at 0.7 or above (Chin, 1998). Composite reliability was assessed on the basis of internal consistency. It is similar to Cronbach’s alpha. The minimum acceptable level of composite reliability is 0.5 (Gerbing and Anderson, 1988). The convergent validity was assessed with the help of AVE which is at least 0.50. (Fornell and Larcher, 1981).

In the present study, the CFA has been used to analyze the validity and reliability of variables included in each dimensions of the quality of work life factor.

1.15.5 Multiple Regression Analysis

When a variable is dependent on more than one independent variables, one analysis will not reveal the relationship. For this purpose, the multiple regression analysis was administered. The cause and effect relationship between dependent and independent variables are carried out by the multiple regression analysis. The general form of the regression model is:

\[ Y = a + b_1X_1 + b_2X_2 + \ldots + b_nX_n + e \]

Whereas

- \( Y \) = Dependent variable
- \( X_1, X_2, \ldots, X_n \) = Independent variable
- \( b_1, b_2, \ldots, b_n \) = Regression co-efficient of independent variables
- \( a \) = Constant and
- \( e \) = Error term
In the study the multiple regression analysis has been used to find out.

i) The impact of various factors influencing on quality of work life among non-managerial employees in the NLC.

ii) The impact of overall QWL dimensions on individual.

**1.15.6 T-Test**

The ‘t’ test is used to find out the significant difference among the two group of samples regarding any intention variable which is internal scale. The ‘t’ statistics is calculated by

\[
t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}} \times \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}\]

Degree of freedom of \((n_1+n_2-2)\)

Whereas  
\[t\] - ‘t’ statistics  
\[X_1\] - Mean of the first sample  
\[X_2\] - Mean of the second sample  
\[\sigma_1^2\] - Variance in the first sample  
\[\sigma_2^2\] - Variance in the second sample  
\[n_1\] - Number of samples in first group  
\[n_2\] - Number of samples in second group

In the study, the ‘t’ test has been used to find out the significant difference among the male and female non-managerial employees in the NLC regarding the perception score on the job satisfaction.
1.15.7 Analysis of Variance (ANOVA)

Analysis of Variance is used for examining the differences in the mean values of the dependent variable associated with the effect of the controlled independent variables, after taking into account the influence of the uncontrolled independent variables. One-way analysis of variance involves only one dependent variable or a single factor. The null hypothesis may be tested by the F statistic based on the ratio between these two estimates:

\[ F = \frac{SS_x / (c - 1)}{SS_{error} / (N - c)} = \frac{MS_x}{MS_{error}} \]

Where \( SS_x = \sum_{j=1}^{c} n (Y_j - \bar{Y})^2 \)

Where \( SS_{error} = \sum_{j=1}^{c} \sum_{i=1}^{n_j} (Y_{ij} - \bar{Y})^2 \)

\( Y_i \) = Individual observation

\( Y_j \) = Mean for category (j)

\( Y \) = Mean over the whole sample, or grand mean

\( Y_{ij} \) = \( i^{th} \) observation in the \( j^{th} \) category

\( C \) = Number of independent variables or groups

\( N \) = Total sample size (nxc)

The ‘F’ statistics follows the F distribution, with (c-1) and (N-c) degree of freedom.

In the study the one-way analysis of variance has been administered to find out the association between the profile of the non-managerial employees and their perception score on QWL factors in the NLC.
1.15.8 Growth Rate Analysis

The growth rate analysis was carried out to assess the growth performance of NLC. The data related to various aspects of the NLC from 2008-2009 to 2011-2012. The annual growth rate was computed by $y = a + b_1 x_1 + e$

Where $y$ = Performance variable

$x_1$ = period (year)

$b_1$ = regression coefficient

$a$ = intercept and

$e$ = error term

To compute the compound growth rate, the exponential function of the form mentioned below was used

$$Y_t = AB^t v_t$$  

Where,

$Y_t$ = performance variable

t = time

$v_t$ = error term

A = Y in the base of year

$B^t = 1 + g$

$g$ - being the constant rate of growth to be estimated.

Taking logarithm of (1) gives

$$\log Y_t = \log A + (\log B)^t + \log v_t$$  

By defining
\[ Q_t = \log Y_t, X_t = a, \ a = \log A, \ b = \log B \]

\[ V_t = \log V_t \]

\[ Q_t = a + b x_t + v_t \]

----- (3)

We obtain the value of A and B of (1) using the above definitions value of ‘g’ obtained as follows

\[ \log B = b, \ B = \text{Antilog} \ b \]

\[ B = 1+g, \ g = B - 1 \]

1.15.9 Garrett’s Ranking Technique

To find out the most significant factor which influences the respondent, Garrett’s ranking technique was used. As per this method, respondents have been asked to assign the rank for all factors and the outcome of such ranking have been converted into score value with the help of the following formula:

Percent position = \( \frac{100 (R_{ij} - 0.5)}{N_j} \)

Where

\[ R_{ij} = \text{Rank given for the ith variable by jth respondents} \]

\[ N_j = \text{Number of variable ranked by jth respondents} \]

With the help of Garrett’s Table, the percent position estimated is converted into scores. Then for each factor, the scores of each individual are added and then total value of scores and mean values of score is calculated. The factors having highest mean value is considered to be the most important factor.

1.15.10 Correlation Coefficient

The most familiar measure of dependence between two quantities is the Pearson product-moment correlation coefficient, or "Pearson's correlation." It is obtained by dividing the covariance of the two variables by the product of their standard deviations.
Karl Pearson developed the coefficient from a similar but slightly different idea by Francis Galton.

The population correlation coefficient $\rho_{X,Y}$ between two random variables $X$ and $Y$ with expected values $\mu_X$ and $\mu_Y$ and standard deviations $\sigma_X$ and $\sigma_Y$ is defined as:

$$\rho_{X,Y} = \text{corr}(X,Y) = \frac{\text{cov}(X,Y)}{\sigma_X \sigma_Y} = \frac{E[(X - \mu_X)(Y - \mu_Y)]}{\sigma_X \sigma_Y}.$$

Where $E$ is the expected value operator, cov means covariance, and, corr a widely used alternative notation for Pearson's correlation.

The Pearson correlation is defined only if both of the standard deviations are finite and both of them are nonzero. It is a corollary of the Cauchy–Schwarz inequality that the correlation cannot exceed 1 in absolute value. The correlation coefficient is symmetric: $\text{corr}(X,Y) = \text{corr}(Y,X)$.

The Correlation analysis is used to identify the relationship between the ten factors of the perception score of the QWL and the overall perception score of QWL.

1.15.11 Structural Equation Modelling (SEM)

Structural equation modelling was used to test the hypothesized model by applying LISREL 8.3 (Joreskog and Sorbon, 1993) to covariance matrix. It is used to measure the direct and indirect effect of product, price, brand, advertisement, and impulse buying tendency factors on the consumer behaviour. The given figure represents the hypothetical model.
1.16 LIMITATIONS OF THE STUDY

The limitations of the present study are given below:

1. The scope of the study is confined to the NLC, NEYVELI.

2. The variables related to the QWL, stress and the QWL, job satisfaction and the QWL, organizational climate and QWL and enhancement of the QWL were drawn from the review of previous studies and the views of experts in the field.

3. Only 10 percent of non-managerial employees had been included for the present study.

4. The descriptive variables related to so many aspects in the QWL had been measured with the help of liker five point scale.
1.17 CHAPTERISATION

The present study is given in five chapters for a clear presentation.

**Chapter–I** consists of introduction, need for the study, statement of the problem, reviews of previous studies, objectives of the study, methodology, limitations and cauterization.

**Chapter–II** presents the conceptual framework and covers the profile and performance of NLC, Neyveli.

**Chapter–III** exhibits the demographic profile of the non-managerial employees, and discusses the various factors influencing the QWL namely pay and compensation, training and development, recognition, career development, job security, job content, safety measures, work schedule, inter-personal relationship and work environment, and analyses the association between the demographic profile of the non-managerial employees and their perceptions on the QWL.

**Chapter–IV** explains the effect of the QWL on the level of stress, job satisfaction and organizational climate among the non-managerial employees; and the opinions of non-managerial employees towards effects and enhancement of the QWL.

**Chapter–V** reveals the summary of findings, suggestions, conclusion and scope for future research.
REFERENCES:


