JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

Quality of Work Life and Employee Performance: A Study of Indian Railway Employees

Anirban Ghosh
Research Scholar, Department of Business Administration (HR), The University of Burdwan, West Bengal
Dr. Nirmal Chandra Roy
Asst. Professor, Department of Business Administration (HR), The University of Burdwan, West Bengal
Dr. Rajeev Dutraj
Asst. Professor, Department of Management Studies, Salesian College (Autonomous), West Bengal

1. Abstract

The competition amongst organisations is not only in terms of businesses but also in term of attracting quality human resource. This has led Quality of Work Life (QWL) to be one of the most important aspects of an employees' job life as an employee may spend a long-term association with the organisation. For the organisation it means lesser attrition and loyal employees. QWL may be considered as the relationship between the work environment and the employees working in it. A high degree of quality of work life is essential for organisations to keep employees motivated and attract better talent. Organisations are growing fast and to manage them has become complex over the years, especially when it comes to human resource management. The purpose of this study has been to find out the relationship between QWL and EP among the employees of the Indian Railways, and to understand how the various factors that influence QWL has an influence on EP. The study itself has shown how the various factors of QWL as proposed by Walton (1975) influences the QWL and therefore affects EP. For the purpose of this study data was collected through a set of questionnaires which was analysed through Factor Analysis method. A sample of 407 was taken from a population of 22702 (Indian Railways, 2020-21)) using the Taro Yamane's formula (Yamane, 1967). The outcome has an implication on the real work scenario of the Indian Railways, as the relationship and the influencing factors of QWL directly impacts the employee work and performance. The

limitations of this study have been the wide area of office that had to be covered within a limited time frame.

Key works: Quality of Work Life, Job Satisfaction, Work Environment

1.1 Quality of Work Life

In the globalised world of business entities and other organisation, QWL is gaining much importance in order to stay competitive with committed quality employees that will lead to increased productivity. An effective and positive QWL in an organisation creates a motivational environment leading to satisfaction amongst employees. Both work life and family life are directly affected by the QWL. Therefore, it cannot be neglected by the management. Many researchers have given various factors for understanding QWL and its dimensions. Some of the dimensions that have evolved over the years include job satisfaction, work design, health and safety, job security, family welfare, work life balance, and work environment. Health and safety needs consisted of protection against disease and injury within and outside the workplace. Economic and family needs consisted of wages and job security. Social need consists of free time at workplace and cooperative work between colleagues. Self-esteem need considers recognition and appreciation of work inside and outside the organisation. Training need is the training for improving job skills. Finally, the aesthetic needs cover both personal creativity and creativity at workplace. Thus, we can say that QWL is a multi-dimensional construct which cannot be defined with precision but can be comprehended through its various dimensions as propounded by various researchers. It is complex and therefore defined by researchers in varied ways. Though there are varied ideas, the central theme remains common in all of them like employee wellbeing, relationship between employees, work environment, functions of job content, pay, safety and security, etc. The overall aspects of QWL may be briefly summarised in the following table:

Table 1

Year	Author/Source	Components
1973	Walton	Adequate and fair compensation, safe and healthy working conditions, opportunity to use and develop human capacities, opportunity for growth and security, social integration in the work organisation, constitution

		in the work organisation, work and total life span, and social relevance of work life.
1985	Klatt et al.	Occupational stress, organisational health programmes, pay, control and participative management, alternate work schedule, grievance procedures, recognition, seniority and merit in promotion and development, superior-subordinate relations, permanent employment, and adequacy of resources.
2001	Sirgy et al.	Lower order needs comprising of health, safety, economic, and family needs, and higher order needs consisting of social, esteem, self-actualisation, knowledge, and aesthetic needs
2006	Mirsepasi	Safe and secure work situation, fair payment for good performance, possibility of learning and using new skills, individual rights, social integration in the organisation, equilibrium in job division and unemployment, and creating work and organisational commitment
2013	Nanjundeswaraswamy and Swamy	Organisational culture and climate, training and development, work environment, compensation and rewards, relation and co-operation, job satisfaction and job security, autonomy of work and adequacy of resources, and facilities available.

1.2 Relationship between Quality of Work Life and Employee Performance

EP in relation to QWL may be understood from the point of view that it is the ability of an organisation to achieve its vision and mission by maximising the utilisation of human resources. Companies with high QWL had employees perform better with better profitability and higher growth compared to other companies (May et al., 1999). Sirgy et al. (2001) found in their study that higher QWL lead to intrinsic motivation, further leading to improved performance. Many researches have shown that organisations providing better QWL for its employees can lead to increased human resource output and performance enhancement (Korunka et al., 2008). Employees look for autonomy and teamwork, and the style of management where they feel recognised. Performance can be in relation to many aspects. For example, unit produced, maximisation of processes, innovation, service quality, etc. Improved QWL is understanding employees' physiological and socio emotional needs, that leads to job satisfaction and increases organisational efficiency and productivity (Ruzevicius, 2007; Schneider et al., 2003). QWL looks

towards improved working conditions making employees satisfied with their work environment. Two dimensions of employee behaviours in terms of employee performance was identified by Motowidlo and Van Scotter (1994); task performance and contextual performance. Task performance focuses on core job responsibilities and proficiency. Contextual performance reflects voluntary behaviour that contribute to the organisational environment. The social exchange theory states that when employees perceive fair treatment (QWL), they reciprocate with higher performance (Cropanzano & Mitchell, 2005).

Therefore, we can state that QWL is the employees' perception of their psychological, physical, and social working conditions. It includes work environment, career development, work-life balance, participation in decision making, and job security. In relation to this, EP refers to how efficiently and effectively employees' job responsibilities are undertaken, fulfilling organisational goals through task performance and contextual performance. As per Maslow's hierarchy of needs QWL addresses issues of safety, self-esteem, belongingness, and self-actualisation, all of which impact job performance (Taormina & Gao, 2013). Rathi and Barath (2013) in their study finds that QWL is positively correlated with both job satisfaction and job performance. Herzberg's two factor theory states that a good QWL addresses hygiene and motivation factors leading to better performance (Vijayakumar & Saxena, 2015). Thus, better QWL is related to higher motivation, satisfaction, and engagement, leading to better EP.

2. Statement of the problem and Objectives

The Indian Railways has grown over the years with increase in demand due to the increase in freight and number of passenger growth. The focus by the government for developing the Indian Railways has also led to the development of the Indian Railways. The data from the Ministry of Railways, Government of India (Railway Board), shows the overall development of the Indian Railways under various categories. The growth in route kilometres electrified from 2013-14 to 2022-23 shows that starting with a growth of 610 kilometres between 2013-14 and 2014-15, it has reached to a growth of 6270 kilometres between 2021-22 and 2022-23. This is no doubt a substantial growth in electrification by the Indian Railways.

The rolling stock or in common terms the railway vehicles have had a developmental growth in electrical vehicles. Data shows that the steam locomotives have been reduced from 2015 onwards and keeping it stagnant at 39 units. The diesel locomotives have had a staggered growth between 2013-14 and 2017-18, thereafter having a negative growth till almost 2022-23. On the contrary

there has been a steady growth in electric locomotives from 2014-15 to 2018-19, post 2018-19 we can see that the increase has been substantial. This shows that the focus has been on modernisation of the Indian Railways. Further, there has been a steady growth in passenger carriages from 2013-14 to 2022-23. The growth in number of EMU/DMU/DHMU vehicles have been nominal between 2013-14 and 2022-23; just 2293 units. Between the said periods the number of rail cars have dropped from 35 units to 12 units, and other coaching vehicles have increase by 4347 units. The number of wagons has gone up by 62958 units between 2013-14 and 2022-23, indicating the growth in freight movement alongside the Indian economic growth. Thus, we may infer from the data that there has been an overall growth in the number of vehicles of various categories in the Indian railways indicating a developmental modernising change in the Indian railways over a 10-year period.

While considering the number of stations we find that it has increased between 2013-14 and 2022-23. A total of 252 stations were added during the period thus adding to the infrastructural growth story of the Indian Railways. Adding to this, the Indian Railways has taken up the task of modernising the railway stations to be at par with world class railway stations.

Having studied the above data, we can deduce that there has been an overall development in the Indian Railways with a vision of modernising the railways. The development of the Indian Railways has been emphasised by the government over the years; thus, this developmental mode seems to be a continuous process for the future as well. In this context, we can expect that the human resource which is a key factor for the railways would also grow in numbers. However, the data shows a different picture. Rather than an increase in the number of employees over the years we see a steady decline by the year 2022-23.

It is generally expected that with the growth of an organisation the need for work force will also increase because the growth of the organisation brings in more work load or an increase in the functionality of the organisation that the employees are to undertake. In case of the Indian Railways from 2013-14 to 2022-23 we see that the number of employees has declined by 144 thousand, which is a large number considering the network of the Indian Railway. Therefore, this study on understanding the relationship between QWL and the performance of the employees in the Indian Railways despite the fact that though the Indian Railways has grown in size the scenario is opposite in case of the number of employees.

The objectives of the study are as follows

1. To find out the relationship between Quality of Work Life and Employee Performance among the employees of the Indian Railways.
2. To understand how the various factors that influence Quality of Work Life has an influence on Employee Performance in the Indian Railways.

3. Literature Review and Hypothesis

3.1. Literature Review

The concept of QWL emerged post the work evolution, with shifting focus on individuals. Carlson (1983) states that QWL is both a goal and an on-going process for achieving it. It is a goal as it is the commitment of any organisation for work improvement; creation of a more involving, satisfying, and effective jobs and work environment for employees at all levels in the organisation. As a process, it calls for efforts to realise the goal through active involvement of people in the organisation. QWL is also considered as the base of HR development covering employee's feelings about the various areas of work encompassing job security, working condition, economic benefits, organisational and interpersonal relationships, and its meaning in one's life (Gorle & Bhatia, 1997). Job satisfaction as the main criterion of a high QWL (Mirvis & Lawler III, 1984) has become the focus of recent research about teacher attrition and retention (Appiah-Agyekum et al., 2013). Sirgy et al. (2001) conceptualised QWL in term of need satisfaction and asserted that QWL programmes are mediums to improve quality of life. Wyatt and Wah (2001) states that Asia gives lesser importance to QWL in comparison to North America and Europe considering that only few organisations adapt QWL programmes, and the publication of limited research papers on QWL in the South East Asia regions. It shows that only few organisations practiced QWL programmes in South East Asia in order to achieve employee satisfaction in their jobs. The aim of QWL has been to provide good working conditions for the workers inorder to complete their work with satisfaction and happiness (Timossi et al., 2008).

The aim of such studies has been to find various avenues to keep workers motivated for achieving higher job performance, enhancing job satisfaction, and reducing the threat of employee attrition (Hannif et al., 2008). Job satisfaction is considered as the outlook employees have towards their occupation, work environment, and workplace, whether positive or negative (Aziri, 2011). QWL further gained popularity when the United Auto Workers and General Motors started a QWL

programme for work reforms (Gayathiri & Ramakrishnan, 2013). Sadri and Goveas (2013) states that factors of QWL like adequate and fair compensation, safe and healthy working conditions, developing human capabilities, opportunity for individual skills and talent, and career and growth opportunities varied according to employees' perception, and job satisfaction depended upon the perception of dimensions of QWL. QWL refers to an individual's evaluative reaction to, and satisfaction with, his/her work and the total working environment (Taher, 2013). Higher job satisfaction leads to a higher level of job effectiveness and efficiency by employees in comparison to the dissatisfied employees those who are likely to be less effective and efficient (Talasaz et al., 2014). QWL being multi-faceted alludes to the overall satisfaction with work life leading to the improvement of work-life balance. It is the sense of belongingness to a working group, a sense of becoming oneself, and a sense of being worthy and respectable. In simple terms, it refers to the impact of work situation on the employee. With the coming of technology during the 1960s and 1970s, QWL began to gain importance as a human resource intervention in the USA and Scandinavia. The idea was initially discussed in 1972 in the USA during an international labour relations conference (Thakur & Sharma, 2019). Technology began impacting workers with increased automation leading to almost dehumanisation and alienation at work place. However, this development led to economic growth of developed nations and the industrial organisations, the benefits did not proportionately percolate down to the working class. In fact, to reduce cost, outsourcing began to gain importance leading to reduction in domestic workforce. This led to higher workloads, stress, lesser autonomy, and reduction in job security. With the emergence of IT jobs and almost 24/7 work scenario, there increased the number of researches from different disciplinary background in order to find ways to create better life conditions.

Mowday et al. (1982) regarded attitudinal commitment as an individual's identification with and involvement in a particular organization, characterised by a strong belief in and acceptance of the organization's goals and values. This approach has been put into practice with a scale known as the OCQ developed by Porter and his colleagues (Porter et al., 1974; Mowday et al., 1982).

The feeling of dedication to one's organisation, and the willingness to work hard for the organisation, and the resolve to stay with the organisation is known as organisational commitment (Meyer & Allen, 1988). Meyer and Allen (1991) proposed a theory stating that there are three components to organisational commitment: affective, continuance, and normative commitment. The emotional attachment to the organisation is called the affective commitment. The moral

rational reasoning with respect to the cost of staying versus leaving the organisation is known as the continuance commitment. Normative commitment refers to the sense of moral obligation to stay with the organization.

Employees those who are committed are known to be stable, productive, and more likely to achieve organisational goals than their less committed colleagues (Larkey & Morrill, 1995). Taunton et al. (1997) suggested an indirect relationship between organizational commitment and turnover intensions and mentioned that organizational commitment was a stronger predictor of turnover intensions than job satisfaction. Some of the organisational factors associated with organisational commitment include human resources management practices, leadership styles and trust within the organisation (Meyer & Allen, 1997). The general theories of life development is the basis of the development of commitment that provides a framework for the study of changes in individual physiology, behaviour, and personality as a person moves from conception to death, including transactions associated with work (Beck & Wilson, 2001).

Yoona (2002) suggested a dual-process model of organisational commitment. The model states forth the idea that job satisfaction and perceptions of organisational support are vital emotional and cognitive processes that leads to commitment in the workplace. It further suggests that job satisfaction and organisational support function through independent channels to moderate the impact of work experience on organisational commitment.

All organisations have a system to assess the performance of their employees. A study of 278 organisations shows that about two-third of which were multinational corporations from 15 different countries showed that more than 90% have a formal performance management system (Cascio, 2006). A study by Surolia and Rai (2018) on the relationship between QWL and employee performance in 10 private insurance companies of Rajasthan found a significant positive and moderate degree of correlation of income with QWL and employee performance.

Having undertaken a comprehensive study on QWL and employee performance, we find that though there has been substantial work in this area, there are hardly any study undertaken on QWL and EP in relation to the Indian Railways. Specially in the case of North East Frontier Railways, we do not find any such study. This research gap has let us carry on this study and come out with the outcome in terms of the North East Frontier Railways.

3.2. Hypothesis

H1: No significant relationship exists between QWL and EP among the employees of the Indian Railways.

H2: Various factors that influence QWL do not have any significant influence on EP of the railway employees.

4. Research Methodology

4.1 Sampling and Measurement

For the purpose of survey of the Indian Railways employees, we adapted the evaluation model of QWL proposed by Walton (1975). He have proposed eight important categories associated with QWL. They are adequate and fair compensation, safe and healthy working conditions, immediate opportunity to use and develop human capacities, opportunity for continued growth and security, social integration in the work organization, constitutionalism in the work organization, work and total life space, and social relevance of work life. The adaption of the theoretical model in this study helps through a more clarified set of questions and an objective scale of answers, its application in employees with lesser educational qualification. Thus, increasing the reliability of the result. Out of a total population of 22702 a sample of 407 (Indian Railways, 2020-21) were selected through the use of Taro Yamane's formula (Yamane, 1967) for sample size calculation.

Stratified random sampling has been used for this research in order to ensure that employees from all across the major functional departments from Group C category, those who are involved in providing passenger services and scheduled movement of trains, are covered for the collection of primary data.

4.2 Demographic Analysis

From a total of 407 respondents, we have a total of 245 male respondents and a total of 162 female respondents. They represent the five departments under the North East Frontier Railways. The Departments are Transportation, Commercial, Signal & Telecommunication, Electrical, and Mechanical Department. All respondents belong to the group C category of employees. There were 81 respondents from Transportation Department, 97 from Commercial Department, 89 from

Signal & Telecommunication Department, 67 from Electrical Department, and 73 from Mechanical Department.

Table 2

Respondents	Number
Total	407
Male	245
Female	162
Transportation Department	81
Commercial Department	97
Signal and Telecommunication Department	89
Electrical Department	67
Mechanical Department	73

4.3 Instruments and Methods

QWL scale given by Walton (1975) has been used in this study, adapting the eight aspects of QWL provided in the study. For the understanding of EP, we have used the two dimensions of employee behaviour in relation to employee performance namely task performance and contextual performance as given by Motowidlo and Van Scotter (1994). Task performance relates to behaviour or work action that are role specific, and contextual performance includes discretionary behaviour that shape the social and psychological context of the workplace. For both of these a set of structured questionnaires using a Likert scale (1-5) was used to measure QWL dimensions and employee performance. IBM SPSS statistics version 22 has been used for data analysis and interpretation. Pearson's Correlation has been used to find the relation between QWL and EP. Exploratory Factor Analysis (EFA) has been used to validate the factor structure of QWL components. Pearson's Correlation Coefficient (r) is used to determine the strength of the relationship between QWL and employee performance.

5. Results

5.1 KMO and Bartlett's Test

Using the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy we get the KMO Value as 0.906, indicating that the sampling is highly adequate for factor analysis. KMO value between 0.90 and 1.00 is considered marvelous (Kaiser, 1974). The KMO value of 0.906 suggests that patterns of correlations are relatively compact and factor analysis will yield distinct and reliable factors.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.906
Bartlett's Test of Sphericity	Approx. Chi-Square	8970.752
	Df	528
	Sig.	.000

After using the Bartlett's Test of Sphericity (Bartlett, 1954), we get Approx. Chi-Square as 8970.752, df as 528, and Sig. as 0.000. The test examines whether the correlation matrix is an identity matrix. A significant result ($p < 0.05$) indicates that variables are sufficiently correlated to justify the application of factor analysis. The significance value of $p = 0.000$ means the correlation matrix is not an identity matrix. Thus, the dataset is appropriate for structure detection.

Based on the KMO value of 0.906 (Kaiser, 1974) and the significant result of Bartlett's test of sphericity (Bartlett, 1954), it can be concluded that the data is highly suitable for factor analysis. These results confirm the presence of underlying structures and interrelations among variables, validating the use of Exploratory Factor Analysis (EFA).

5.2 Total Variance Explained in Factor Analysis or PCA

The following table shows the total variance explained that shows how much of the total variance in all the observed variables is accounted for by each extracted component (factor).

Table 3

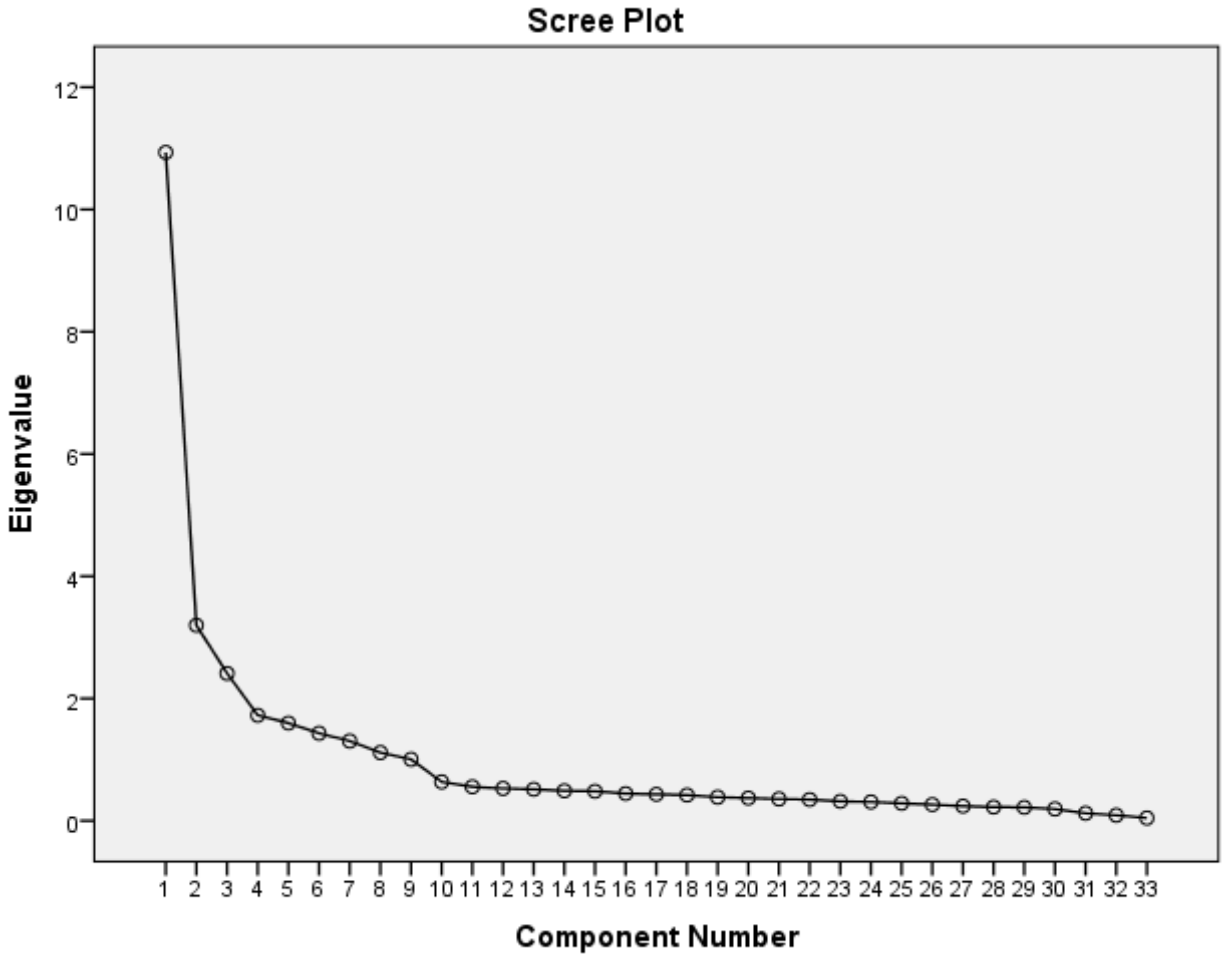
Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.935	33.136	33.136	10.935	33.136	33.136	3.727	11.294	11.294
2	3.199	9.693	42.828	3.199	9.693	42.828	3.693	11.190	22.484
3	2.411	7.306	50.134	2.411	7.306	50.134	3.370	10.213	32.697
4	1.726	5.230	55.364	1.726	5.230	55.364	2.741	8.305	41.002
5	1.598	4.842	60.206	1.598	4.842	60.206	2.615	7.926	48.928
6	1.432	4.340	64.546	1.432	4.340	64.546	2.361	7.156	56.084
7	1.305	3.953	68.499	1.305	3.953	68.499	2.294	6.952	63.036
8	1.116	3.382	71.882	1.116	3.382	71.882	2.234	6.769	69.804
9	1.005	3.045	74.927	1.005	3.045	74.927	1.690	5.122	74.927
10	.636	1.928	76.854						
11	.555	1.681	78.536						
12	.529	1.603	80.139						
13	.514	1.559	81.697						
14	.491	1.487	83.184						
15	.483	1.462	84.647						
16	.445	1.350	85.997						
17	.432	1.309	87.306						
18	.420	1.273	88.579						
19	.385	1.167	89.746						
20	.372	1.128	90.873						
21	.357	1.081	91.954						
22	.348	1.054	93.008						
23	.317	.962	93.970						
24	.308	.932	94.902						
25	.286	.867	95.769						
26	.264	.802	96.571						
27	.240	.726	97.296						
28	.224	.679	97.975						
29	.218	.661	98.636						
30	.192	.583	99.220						
31	.123	.373	99.592						
32	.090	.273	99.865						
33	.044	.135	100.000						

Extraction Method: Principal Component Analysis.

5.3 Screen Plot

The following Screen Plot determine the number of factors or components that can be retained.



The x-axis in the Screen Plot represents the component number, and the y-axis represents the eigenvalues associated with each component. Normally, components with eigenvalues greater than 1 are considered significant. The elbow or inflection point in the plot is where the slope of the line changes sharply and begins to level off. This point helps determine the number of components to retain. We can see that there is a clear elbow at around component 6, after which the eigenvalues level off. This suggests that the first 6 components explain most of the variance in the data and should be retained for further analysis. The remaining components contribute minimal additional information and are likely due to noise. Thus, the scree plot supports retaining six components, aligning with the rotated component matrix results where meaningful variable clusters formed around six distinct components.

5.4. Cronbach's Alpha and Rotated Component Matrix

Table 4

Rotated Component Matrix[a]

	Component								
	0.902	0.873	0.922	0.902	0.807	0.842	0.877	0.856	0.780
EP5	.914								
EP1	.906								
EP2	.794								
EP4	.780								
EP3	.764								
EP10		.794							
EP8		.767							
EP9		.735							
EP6		.718							
EP7		.714							
QWLA2			.854						
QWLA3			.849						
QWLA1			.767						
QWLA4			.747						
QWLB8				.750					
QWLB7				.715					
QWLB6				.694					
QWLB5				.690					
QWLC3					.797				
QWLC2					.794				
QWLC4					.784				
QWLC1					.768				
QWLD1						.824			
QWLD2						.809			
QWLD3						.724			
QWLE3							.842		
QWLE1							.783		
QWLE2							.753		
QWLF1								.790	
QWLF3								.755	

QWLF2								.748	
QWLG2									.900
QWLG1									.898

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

The Rotated Component Matrix from a Principal Component Analysis (PCA) using Varimax Rotation with Kaiser Normalisation, lists several variables and their corresponding loadings on extracted components. A high factor loading indicates a strong relationship between the variable and a particular component. The matrix shows variables EP1 to EP10 load highly on the first component, suggesting they form a coherent factor, representing a single construct employee performance. Variable QWLA1-QWLA4 cluster around another component, indicating a separate latent dimension. Similarly, the QWLB, QWLC, QWLD, QWLE, QWLF, and QWLG groups form distinct clusters on different components. The analysis suggests that the items can be grouped into several meaningful factors, each representing a latent variable. The six iterations for convergence indicate a stable solution, and the use of Varimax rotation helps clarify which variables best represent each factor by maximizing variance among the loadings.

Cronbach's Alpha is a statistical measure of internal consistency or reliability of a set of scale or test items. It tells us how closely related a set of items are as a group, meaning whether the questionnaire for our survey is reliably measuring the same underlying construct.

Table 5

Alpha (α)	Interpretation
≥ 0.90	Excellent
0.80–0.89	Good
0.70–0.79	Acceptable
0.60–0.69	Questionable
0.50–0.59	Poor
< 0.50	Unacceptable

5.5 Pearson's Correlation

Table 6

Items	A(Compensation)	B (Growth & Security)	C (Constitution)	D (safety & working condition)	E (Total life space)	F (Social Integration)	G (social relevance of WL)
EP_C	.519	.611	.218	.425	.462	.535	.052
Sig. (2-tailed)	.00	.00	.00	.00	.00	.00	.00
N	407	407	407	407	407	407	407
EP_T	.215	.303	.128	.270	.205	.243	.154
Sig. (2-tailed)	.00	.00	.00	.00	.00	.00	.00
N	407	407	407	407	407	407	407

The factors of QWL in the above chart are mentioned from A to G. Compensation refers to fair and adequate remuneration and rewards for work, reflecting the effort and value an employee brings to the organisation. Growth and security imply the career advancement opportunities along with job security. Constitution in relation to QWL speaks of the principles and practices that provides employee rights and wellbeing with dignity and includes aspects such as fairness, equity, and due process. Safety and healthy working conditions are essential for employee wellbeing. The working life in an organisation is the total life span which is important in terms of employee wellbeing. Social integration refers to employee belongingness, connection, and shared identity in the workplace, with minimising discrimination, increasing teamwork and interpersonal relationship. The sense of contribution to the society through one's work with a sense of self esteem as an employee of the organisation is known as the social relevance of work life.

The correlation matrix has variables grouped by labels such as EP1–EP10, QWLA1–QWLG2, similar to those in the rotated component matrix. Pairs show high positive correlations, particularly among variables within the same group (e.g., EP1 with EP2, QWLA1 with QWLA2), indicating internal consistency, meaning items within the same group measure similar underlying constructs. No strong negative correlations are observed, suggesting no inverse relationships among the variables. Therefore, the correlation matrix supports the validity of the factor groupings observed in the PCA. Variables within each factor group are highly interrelated, which justifies their grouping into components in the earlier analyses. This adds to the reliability of the constructs being measured, such as employee performance or quality of work life domains.

From the above we can observe that the EP_C or Contextual Performance (voluntary behaviour that contribute to the organisational environment) has a moderate positive correlation of 0.519 with compensation. A strong positive correlation of 0.611, indicating a fairly robust relationship between growth and security and employee performance. A correlation of 0.218 shows a weak correlation between constitution and employee performance. The relation is moderate between safety and working condition, and employee performance with correlation 0.425. The same is the case with total life span with correlation 0.462. A moderate positive correlation of 0.535 indicate that employees who are more socially integrated tend to show better performance. A moderate positive correlation of 0.052 suggest that the social relevance of work life has a moderate effect on employee performance.

The next relation with EP_T or Task Performance has an overall weak relationship with the various factors of performance as the correlation with compensation is 0.215, with growth and security is 0.303, with constitution is 0.128, with safety and working condition is 0.270, with total life space is 0.205, with social integration is 0.243, and social relevance of QWL is 0.154.

The p-values being 0.00 indicates that all correlations are statistically significant at any reasonable confidence level ($p<0.01$), indicating that the relationships are unlikely to have occurred by chance.

6. Findings

The study shows that the employee performance in terms of contextual performance is positively correlated with: job compensation as $r=0.519$ and $p<0.01$, growth and security as $r=0.611$ and $p<0.01$, constitution as $r=0.218$ and $p<0.01$, safety and working condition as $r=0.425$ and $p<0.01$, total life span as $r=0.462$ and $p<0.01$, social integration as $r=0.535$ and $p<0.01$. Employee performance in terms of contextual performance is not significantly correlated with social relevance of work life as $r=0.052$ and $p<0.299$, showing it is not significant enough. Employee performance in terms of task performance is positively correlated with: job compensation as $r=0.215$ and $p<0.01$, growth and security as $r=0.303$ and $p<0.01$, constitution as $r=0.128$ and $p<0.01$, safety and working condition as $r=0.270$ and $p<0.01$, total life span as $r=0.205$ and $p<0.01$, social integration as $r=0.243$ and $p<0.01$, social relevance of work life as $r=0.154$ and $p<0.01$.

There is a strong correlation for employee performance in terms of contextual performance as working condition and job characteristics correlation is 0.611 and 0.519, respectively. Employee performance in terms of working condition is strongly correlated with working conditions and work-life balance as the scores are 0.303 and 0.270, respectively. The most significant factors for both types of performance include working conditions, job satisfaction, and recognition and respect. Organisational commitment is only weakly associated and not significant with contextual performance. Thus, the study shows improving working conditions, job satisfaction, and recognition could significantly enhance both task and contextual performance. Contextual performance is more sensitive to QWL factors than task performance.

7. Practical Implication

This study shows the relevant findings concerning the relationship between QWL and EP, that have not been previously explored in the literature referring to the Indian Railway Employees. The relationship that exists between QWL and EP has a direct impact on the employees as well as the service takers of the Indian Railways. Improved QWL leads to higher commitment. The importance of railway employees can be realised from their contribution towards their everyday customer-oriented activities. In order to provide the best possible service to the general public who avail the railway services, employees have to be job satisfied. They should be happy in their work environment.

The findings of this study have many practical implications for the Indian Railway. Improved QWL can significantly enhance their organisational commitment —including affective, continuance, and normative dimensions (Meyer & Allen, 1991), leading to increased job satisfaction, reduced turnover intentions, better service delivery, and improved safety outcomes—critical parameters in railway operations. All of these factors lead to an enhanced EP.

8. Conclusion

This study comprehensively examined the relationship between Quality of Work Life (QWL) and Employee Performance (EP) within the Indian Railways, with a specific focus on Group C employees of the North East Frontier Railways. In the context of rapid infrastructure growth and technological modernization across the Indian Railways, the research highlights a critical human resource gap—declining employee strength despite increasing workload and operational complexity. This contradiction formed the backdrop for investigating how QWL factors influence

employee effectiveness, particularly in a human-intensive, service-driven organization like the railways.

Through the use of established theoretical frameworks such as Walton's QWL model (1975) and the task-contextual performance model by Motowidlo and Van Scotter (1994), the study revealed a robust correlation between multiple QWL dimensions and both types of employee performance. Among these, working conditions, job satisfaction, job security, recognition and respect, and work-life balance were found to be most influential. Particularly, contextual performance—which encompasses voluntary behaviours like cooperation, initiative, and interpersonal support—showed stronger associations with QWL dimensions than task performance. This suggests that employees who experience a higher quality of work life are more likely to contribute positively beyond their job descriptions, which is crucial for maintaining service excellence in the Indian Railways.

Importantly, while task performance (core duties) also responded positively to improved QWL, the effect was relatively weaker. The dimension of organizational commitment showed a significant but modest association with task performance and no significant impact on contextual performance. These insights indicate that improving QWL can be a more effective route for enhancing discretionary efforts and overall morale than relying solely on traditional notions of employee loyalty.

The study's quantitative analysis, validated through factor analysis, high internal reliability (Cronbach's Alpha > 0.90), and Pearson's correlation, establishes that the measurement instruments used were both statistically sound and contextually appropriate. The research findings thus lend themselves to practical applications. For instance, Indian Railways can enhance employee performance by investing in better workplace environments, fair compensation, opportunities for personal growth, and recognition systems. These interventions can foster greater motivation, job satisfaction, and retention—critical outcomes in a sector facing workforce shrinkage.

From a policy standpoint, the study calls for renewed attention to human resource strategies in Indian Railways. The significant infrastructural and technological advancements observed over the past decade must be accompanied by parallel improvements in the quality of employee experience. As India aspires toward a modernized and efficient public transportation system, its workforce must not be left behind. Addressing QWL proactively will not only support employee

wellbeing but also reinforce operational safety, customer satisfaction, and organizational resilience.

In conclusion, this study affirms that Quality of Work Life is not merely an HR concern but a strategic lever for enhancing employee performance. In a human-intensive organization like Indian Railways, where human interaction is integral to service delivery, fostering a supportive and fulfilling work environment is key to achieving sustainable productivity and excellence.

9. Limitations

Research being limited in this area there has been limited resources in terms of study related to the railways in terms of QWL and EP. In fact, there has been no study in this area related to the North East Frontier Railways. The collection of primary data from all the five divisions of the North East Frontier Railways, namely Alipurduar, Katihar, Lumding, Rangiya, and Tinsukia division, has been an arduous process. Further, equal contribution from each department was not there in terms of data collection.

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