



# DISCERNING THE FACTORS INFLUENCING THE PERFORMANCE OF IT EMPLOYEES AND THE ROLE OF JOB SATISFACTION AS THE MEDIATOR

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## **Abstract:**

Employee performance helps in assessing how valuable an employee is to the organization and how well an employee fulfils his job duties and responsibilities. This study examined the factors influencing the performance of IT employees working in Bangalore, India. The study sought to determine the impact of Work environment, employee training, employee motivation, Internal communication with Job satisfaction as the mediating variable, on employee performance. Data was collected from 53 respondents using a self-administered questionnaire. The Percentile Bootstrap method was used for data analysis to discern the mediation effect caused by Job satisfaction. Statistical tools such as ANOVA test and T-test were used to see the influence of other variables on the performance of employees. Findings of the study reveals that Job Satisfaction acts as a mediator between Employee Performance and independent variables - Employee Motivation, Work Environment, Employee Training, Internal Communication. Findings also suggest that there is no notable difference in job satisfaction among male and female employees, different age groups, experience levels, and income levels.

**Keywords:** Employee Motivation, Work Environment, Job Satisfaction, Employee Training, Internal communication, Employee Performance, etc.....

## 1) Introduction:

Bangalore is known as the “Silicon Valley of India”. Around forty percent of Indian IT companies are located in Bangalore. The city’s IT related services hold about fifty five percent of Karnataka state’s gross domestic product. Organizations in the IT industry are currently facing more severe challenges than before. The challenge for each company is to maintain maximum profits while reducing losses from the global competition through effective and efficient management of resources. Of all the resources, human resources are the most valuable for an organization. “The basis of success for firms’ competitive advantage is how to effectively manage human resource (HR) that will increase profitability to meet the needs of organizations, shareholders and investors” (Melinda, 2004).

Employee performance decides the organizational performance. Organizations need to identify the factors that affect employee performance as the operational conditions. Performance can be elucidated as an accomplishment by an individual or a group of individuals within an organization, complying with the rules and responsibilities, to achieve the organization’s goals and objectives concerned legally. The factors that can potentially affect an individual’s performance cannot be separated from the discussion about employee performance. These factors could be related to the individual or organizational environment. Of these factors, employee motivation, job satisfaction, employee training, work environment and internal communication are the most important.

Employee motivation is a contemplation of the commitment, creativity and the energy level an employee brings to their job. One of the most crucial factors to get optimal performance is job satisfaction. “If a person is satisfied with his job, he will make an effort with all the skills that he has to complete the job task” (Thrun, 2014). Effective training programs aid in establishing a more conducive learning environment for the employees. When employees realize their organization’s interest in them through the training programs provided, they in turn put in their maximum efforts to achieve organizational goals. Work environment is the surrounding environment in which an employee performs his job. Work environment can significantly influence how the employees feel about their job. “Internal communication is defined as the transaction between individuals and groups in organizations at various levels and in different specializations” (Frank & Brownell, 1989 cited in Dolphin, 2005), so a good communication process allows employees to perform better. On the basis of the above description, the research questions formulated are as follows:

- 1) Does employee motivation, employee training, work environment and internal communication have an impact on the performance of the IT employees in Bangalore?

- 2) Does job satisfaction have a mediating role between employee motivation, employee training, work environment, internal communication and employee performance in IT firms?

## 2) Literature review

Performance, in generic terms, is the evaluation of the success of an organization. A study by **Suharno Pawirosumarto, Purwanto Katijan Sarjana and Rachmad Gunawan (2017)** showed that work environment, leadership style and organizational culture have a significant positive influence on job satisfaction. A study by **Naser Hoboubi, Alireza Choobineh, Fatemeh Kamari Ghanavati, Sareh Keshavarzi and Ali Akbar Hosseini (2017)** found a positive statistical association between job satisfaction and productivity indices. A study by **Charity Ezenwakwelu and Chineze Etukokwu (2020)** highlighted that all the PMS phases had a significant influence on employee performance. Another study conducted by **Djoko Setyo Widodo and P. Eddy Sanusi Silitonga (2017)** revealed that the leadership style, corporate culture as well as HR development have significant impact on company performance.

Another study by **Razak, Sarpan, & Ramlan (2018)** showed that leadership style variables had a positive influence on employee performance. Another study by **Yen Efawati (2020)**, showed a significant relationship between employee performance and working conditions, workability and leadership styles. Another study by **Mehdi Shojaei and Parisa Shojaei (2020)** disclosed that there is a need to link the "kaizen practices" with improvement and innovation practices. A study by **Ratnasari SL, Sutjahjo G, Adam (2020)** showed that organization culture and leadership has significant influence on job satisfaction. A research done by **Mohammed Iqbal Al-Ajlouni, Sahem Nawafleh and Hiba Alsari (2019)** revealed that the use of training practices and 'e-HRM' had a considerable influence on employee performance. A study by **Barasan, Gunawan, and Sumali (2018)** revealed a notable impact of Work competence, Work motivation and organizational culture on job satisfaction and employee performance. **Delia Vîrgă, Wilmar B. Schaufeli, Toon W. Taris and Ilona van Beek (2019)** conducted a study that revealed that childhood as well as early socialization experiences play a major role in sculpting the behavior of the employees. A study by **Saud Napitupulu, Tulus Haryono, Asri Laksmi Riani, Hunik Sri Runing, Sawitri & Mugi Harsono (2017)** disclosed that career development had a notable impact on factors such as perceived organizational support, motivation, and affective commitment. **Khan, Abdullah and Ahmed, Shariq and Paul, Sameer and Alam Kazmi and Syed Hasnain (2017)** observed positive impact of employee motivation on their performance. The study by **Isabel Buila, Eva Martínez and Jorge Matute (2018)** disclosed that proactive personality usually strengthens the effect of leadership on the identification and engagement. A research done by **I Ketut Sukada, I Ketut Setia Sapta, Nengah Sudja (2018)** highlighted that organizational culture and organizational commitment had a positive influence on Job satisfaction and performance of employees. Another study was done by **Amirul Mukminin, A., Semmaila, B., & Ramlawati, R. (2020)** observed a

significant influence of Education and training, work discipline as well as organizational culture on employee performance was found through this study.

**Mendis, M.D.V.S. and Weerakkody, W.A.S., (2017)** disclosed a constructive association between work life balance and employee job satisfaction and performance. The study by **T Hartati - (2020)** revealed that work motivation along with competence and compensation has a notable impact on employee performance.

### 3) Problem Statement

Today the IT industry is facing the problem of low employee productivity and low employee satisfaction. There are numerous factors that change the employee performance within the organization. These could be personal, company-based and external. Identifying these factors can help in improving the procurement, retention as well as the organizational results. However, this study focuses specifically on the factors such as employee motivation, work environment, employee training and internal communication and job satisfaction that affect employee performance in the IT companies located in India's IT capital, Bangalore. The study will investigate the level of influence the above stated factors have on employee performance and their productivity in the organization.

### 4) Research Gap

A number of studies have been done to analyze the impact of Work Competence, Style of leadership, Organizational Culture, Organizational commitment and CSR on employee performance in various industries across the world. Some studies have shown the impact of employee motivation and Job stress on the performance of employees, especially in the Banking sector and petrochemical industries. Surprisingly, there has been no significant effort in examining the impact of some of the other factors such as training, internal communication, work environment and work shift on employee performance, in the IT industries of India, specifically in Bangalore.

### 5) Research Objective

The aim of this study is to detect and discern the factors affecting employee performance by considering Job satisfaction as a mediator. This research is specifically done for the Information Technology Industry in India. The study would attempt to attain the following objectives:

- I. To identify how job satisfaction mediates the relationship between employee motivation and employee performance.
- II. To examine the influence of employee training on employee performance through job satisfaction as a moderator.
- III. To identify how job satisfaction accounts for the relationship between the work environment and employee performance.

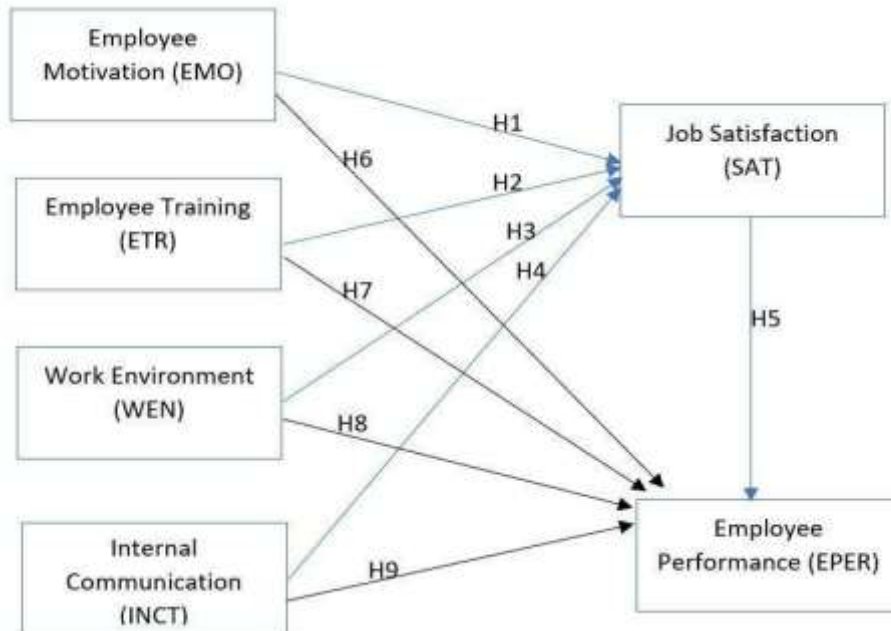


IV. To identify the influence of Job Satisfaction on the association between internal communication and employee performance.

## 6) Hypothesis Formulation:

The following objective emerges from the research objective

**Model:**



### 6.1 Hypotheses

H1: Employee motivation positively influences employee job satisfaction.

H2: Employee training positively impacts employee job satisfaction.

H3: Work environment positively influences employee job satisfaction.

H4: Internal communication positively affects employee job satisfaction.

H5: There is a positive relationship between employee job satisfaction and employee performance.

H6: Employee motivation positively influences employee performance.

H7: Employee training positively impacts employee performance.

H8: Work environment positively influences employee performance.

H9: Internal communication positively affects employee performance.

## 7) Research Methodology

### 7.1 Data Collection Technique:

The primary data source consisted of the employees working in the IT companies located in Bangalore city through a self-administered questionnaire. Secondary data sources included published reports, library, data books etc.

### 7.2 Sample Characteristics:

Sample size consisted of 53 respondents. Simple random sampling method was used.

### 7.3 Sample Geographic Area:

The sample was collected from respondents working in the Information Technology Companies located in Bangalore, India.

## 8) Data Analysis

### 8.1 Demographics of the respondents

Table 1

Sl No	Demographics	Categories	Frequency	Percentage
1	Gender	Male	26	50.9
		Female	27	49.1
2	Age	20-29	31	58.5
		30-39	15	28.3
		40-49	6	11.3
		>50	1	1.9
3	Income Level	<5	19	35.8
		6-10	8	15.1
		11-15	5	9.4
		16-20	5	9.4
		21-25	3	5.7
		26-30	6	11.3
		31-35	3	5.7
		>36	4	7.5
4	Experience	0-5	29	54.7
		6-10	8	15.1
		11-15	7	13.2
		16-20	3	5.7
		21-25	2	3.8
		>26	4	7.5
5	Marital Status	Married	23	43.4
		Unmarried	30	56.6

From the above table it is observed that out of the 53 respondents 27 were female. 58.5% of the respondents were in the age group of 20-29. 54.7% of the respondents have work experience of less than 5 years. Unmarried respondents were 56.6%. Thus, it is clear that the majority of the respondents chosen for the study are unmarried females in the age group of 20-29 years with less than 5 years of experience (66.9) and in the income level of less than 5 CTC.

## 8.2. Mediation Analysis

Regression based mediation analysis is performed using percentile bootstrapping confidence interval method (see Hayes and Rockwood, 2017). The mediating variable between Employee Motivation (EMO), Work Environment (WEN), Employee Training (ETR), Internal Communication (INCT) and Employee Performance (EPER) is Job Satisfaction (SAT).

### 8.2.1 Interpretation

The output of Hayes process in SPSS shows that

**Table 2**

OUTCOME VARIABLE: SAT						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
.5808	.3374	.9005	17.5653	4.0000	138.0000	.0000
Model						
	coeff	se	t	p	LLCI	ULCI
Constant	.4375	.3639	1.2023	.2313	-.2820	1.1570
EMO	.2021	.0741	2.7265	.0072	.0555	.3486
WEN	.2456	.0800	3.0700	.0026	.0874	.4037
ETR	.2636	.0740	3.5611	.0005	.1173	.4100
INCT	.1865	.0815	2.2892	.0236	.0254	.3476

When Job Satisfaction (SAT) acts as a dependent variable the relationship between (H1) Employee Motivation (EMO), (H2) Employee Training (ETR), (H3) Work Environment (WEN) and (H4) Internal Communication (INCT) are significant with P-value < 0.05. Hence, we can reject the Null hypothesis and accept the Alternate hypotheses. Thus, we can establish a positive significant relationship between Job Satisfaction and the dependent Variables. Employee Training (ETR) seems to have the highest significance among all the dependent variables. The coefficient of determination (R-Square) = 0.3374.

### 8.2.2 Interpretation

The output of Hayes process in SPSS shows that

**Table 3**

OUTCOME VARIABLE: EPER						
Model Summary:						
R	R-sq	MSE	F	df1	df2	p
.7643	.5841	.7484	38.4825	5.0000	137.0000	.0000
Model						
	coeff	se	t	p	LLCI	ULCI
constant	-.1108	.3334	-.3324	.7401	-.7702	.5485
EMO	.3651	.0694	5.2641	.0000	.2280	.5023
SAT	.3066	.0776	3.9515	.0001	.1532	.4601
WEN	.2636	.0754	3.5728	.0005	.1202	.4183
ETR	.1721	.0705	2.4398	.0160	.0326	.3115
INCT	.0941	.0757	1.2432	.2159	-.0556	.2437

When Employee Performance (EPER) acts as a dependent variable the relationship between (H6) Employee Motivation (EMO), (H7) Employee Training (ETR), (H8) Work Environment (WEN) and (H5) Job Satisfaction (SAT) are significant with P-value < 0.05. Employee Motivation (EMO) seems to have the highest significance among all the dependent variables. Considering some of the previous studies, "T Hartati - (2020)", we can understand that if work motivation is better, then employees will perform better and the same can be inferred from this study also. (H9) Internal Communication (INCT) is not positively significant with P-value



> 0.05. So, a positively significant relationship between Employee Performance (EPER) and Internal Communication (INCT) does not exist. The coefficient of determination (R-Square) = 0.5841.

### 8.2.3 Interpretation

The output of Hayes process in SPSS shows that

**Table 4**

DIRECT AND INDIRECT EFFECTS OF X ON Y						
DIRECT EFFECTS OF X ON Y						
	Effect	se	t	p	LLCI	ULCI
	.3651	.0694	5.2641	.0000	.2280	.5023
INDIRECT EFFECTS OF X ON Y						
	Effect	BootSE	BootLLCI	BootULCI		
SAT	.0620	.0332	.0075	.1373		

From the indirect effect table shown above the bootstrap lower limit confidence interval of SAT = .0075 and Upper limit confidence interval of SAT= 0.1373. Which means there is no value '0' appears in between upper and lower limit confidence level of SAT which indicates that there is a mediation effect of SAT (H6) exist between Employee Motivation (EMO), Work Environment (WEN), Employee Training (ETR), Internal Communication (INCT) and Employee Performance. Thus, SAT has a mediating effect in the proposed model. The interpretation is done based on Hayes and Rockwood (2017) bootstrapping method.

Thus, from the Mediation Analysis, we can establish that Job Satisfaction (SAT) has a mediating effect between the dependent variable - Employee Performance (EPER) and the independent variables - Employee Motivation (EMO), Work Environment (WEN), Employee Training (ETR), Internal Communication (INCT).

## 8.3 T- Test

Table 5

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Job satisfaction	Equal variances assumed	1.515	.224	1.291	51	.202	.30313	.23472	-.16808	.77434
	Equal variances not assumed			1.293	50.983	.202	.30313	.23446	-.16757	.77384

The two-sample t-test, regarded as independent sample t-test, is an inferential statistical tool that identifies if any statistically remarkable difference exists among the approach of two unassociated groups. In this study two samples T- Test has been used as we have to find if there may be any notable difference amongst gender, which is the categorical variable, and job satisfaction which is measured using metric scale.

Based on the analysis, the independent samples t-test results show that no significant difference exists in the job satisfaction between the gender groups since the level of significance is more than 0.05 and hence, we can accept the Null hypothesis and reject the Alternative hypothesis. A research study conducted by “Zhiyu Feng, Krishna Savani (2020)” has shown that there was no difference in employee job satisfaction before covid lockdown among the gender groups. Here in this research gender of the respondent is not showing much difference with respect to employee job satisfaction, despite the fact that we conducted our study during and after covid lockdown.

## 8.4 Factorial Anova

Factorial ANOVA is a statistical tool that lets us explore the impact of two or more independent variables on a single dependent variable.

A three-way ANOVA has three factors or three independent variables and one dependent variable. In our study, there is one dependent variable, job satisfaction; (2) the independent variable, Age, which has four categories; (3) the independent variable, Experience, that has six categories; and (4) the independent variable Income level, which has eight categories. The key objective of a three-way ANOVA is determining if there exists a three-way relationship among the three independent variables (i.e., an age\*experience\*Income level interaction).

To determine if we have a statistically significant three-way age\*experience\*Income level relationship, we need to consult the " age\*experience\*Income level " row in the Tests of Between-Subjects Effects table, as highlighted below:

**Table 6**

<b>Tests of Between-Subjects Effects</b>					
Dependent Variable: SAT					
Source	Type III Sum of Squares	df	Mean Square	F.	Sig.
Corrected Model	12.945 <sup>a</sup>	22	.588	.693	.812
Intercept	256.771	1	256.771	302.245	.000
Age	1.277	3	.426	.501	.684
Experience	.971	3	.324	.381	.767
Income Level	6.099	6	1.017	1.197	.335
Age*Experience	.000	0	-	-	-
Age*Income Level	.000	0	-	-	-
Experience*Income Level	2.114	5	.423	.498	.775
Age*Experience*Income Level	.000	0	-		
Error	25.486	30	.850		
Total	713.840	53			
Corrected Total	38.432	52			
a. R Squared = .337(Adjusted R Squared= -.149)					

On the basis of the Analysis, the results show that there exists no significant difference in the job satisfaction among the different age groups since the significance level is .684 which is greater than 0.05 and hence the null hypothesis can be accepted and alternative hypothesis can be rejected. But numerous studies have shown a small positive correlation between age and job satisfaction (Herzberg, Mausner, Peterson, & Capwell, 1957;

Huh & Smith, 1965; Saleh & Hyde, 1969; Saleh & Otis, 1964; Hunt & Saul, 1975; Glenn, Taylor & Weaver, 1977) The possible explanation given for this is that with increasing age, seniority and experience, many employees secure more satisfying jobs. But this generalised observation did not prove to be valid in our study on IT employees in Bangalore. This could be with the change in the technology every now and then thus requiring employees to acquire new skills even after gaining experience.

ANOVA results show that no significant difference is present in the job satisfaction among the people with different years of work experience, as the significance level is .767 which is more than 0.05 and thus we can accept the null hypothesis and reject alternative hypothesis. In the study conducted by T.J.Kamalanabhan, L Prakash Sai(2009), years of experience of the respondents did not have much influence on job satisfaction. The same can be analysed from this research also.

On the basis of the Analysis, the results show that no significant difference is present in the job satisfaction among the different income level groups since the significance level is .335 which is more than 0.05 and hence we can accept the null hypothesis and reject the alternative hypothesis. There is a notion that high pay leads to high levels of satisfaction which has been proved to be true in a research study conducted by “Timothy A. Judgea, Ronald F. Piccolob, Nathan P. Podsakoffc, John C. Shawd, Bruce L. Rich (2020)”. However, our observations from this study are in contrast to their observations and established that among different income levels of IT employees in Bangalore, there exists no significant difference in job satisfaction.

The "Sig." column shows statistical significance level (i.e., p-value) of the three-way relationship. We can see that the value is more than 0.05 (i.e., it does not satisfy  $p < .05$ ), which means that there is no statistically significant three-way age\*experience\*Income level interaction effect.

## 9) Findings

From the above analysis, we can conclude that Employee Motivation, Work Environment, Employee Training and Internal Communication are the major factors contributing to job satisfaction. There is a significant relationship between Job Satisfaction and the dependent variables - Employee Motivation, Work Environment, Employee Training and Internal Communication. Job satisfaction in fact plays a mediating role between these independent variables and Employee performance. Hence, to improve organizational performance, managers should consider improving employee job satisfaction. Along with this, we also found that there isn't any significant difference in employee job satisfaction among males and females, different age groups, experience levels, and income levels.

We can understand that supervision, skills and abilities, pay, rewards and recognition are the major factors contributing to job satisfaction. The study also found out that the employees were optimistic and value the importance of their satisfaction for their effective performance. Factors like communication, which is the key

driver of employee morale, and employee work motivation play a significant role in job satisfaction among IT employees in Bangalore.

## 10) Conclusion

The components impacting job satisfaction are Employee Motivation (EMO), Work Environment (WEN), Employee Training (ETR), Internal Communication (INCT). This research has shown a significant relationship between these factors and job satisfaction, and Employee training has the highest significance. Managers must consider enhancing a firm's training culture, so that they can assist personnel to gather new job-associated knowledge, skills and abilities which assist them to be more proactive and adaptive while confronted with diverse job execution-associated challenges. Job satisfaction played a mediating role between these factors and employee performance.

## 11) Recommendations

This paper sought to provide understanding of a few of the factors contributing to performance of employees in the IT companies. Several other factors can be researched to understand their impact on employee performance in a better way. Since Job satisfaction has a positive mediating role on employee performance, employers should focus more on increasing the Job satisfaction of the individual employee by introducing initiatives to improve other factors related to the mediating variable. Other factors include work environment, internal communication, employee training and employee motivation, as these have a significant relationship with the mediating variable.

## 12) Limitations of the Study

This research work has focused on employees working in the IT sector across Bangalore only. Though Job satisfaction, as a mediator, was found to have a significant impact on the performance of IT employees, the possibility of other factors having a mediating effect cannot be ruled out. The respondents of this study were employees who were mostly Working from home because of covid pandemic induced lockdown. So, the work environment did not vary significantly among the respondents.

## 13) Future Research

This study focused mainly on the IT companies located in Bangalore, India. A deeper analysis for various other locations have been left outside the scope of this study. Also several other factors could be considered by choosing a different mediating variable to understand the performance of employees across different locations. A sample size greater than the one used here could be another area to look upon.



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