

# Moderating Effect of Employee Attitude and Work Environment on Learning and Behaviour of the Employees: Evidence from Indian Steel Industry

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**Abstract:** *The purpose of the study was to measure the moderation effect of employee attitude and work environment in the relationship between learning and behaviour. Data was collected from 398 semi-skilled and highly skilled workers of RINL, Vizag of Andhra Pradesh. The collected data was analyzed using SPSS Process macro-3.1. The study results shown that the employee attitude and work environment have significantly moderating the relationship between learning and behavior of the employees.*

**Keywords:** Employee Attitude, Work Environment, Learning, Behaviour, RINL

## 1. Introduction

Human resource is the key element for the growth and development of any organization. The success or failure of the organization depends on the efficient and effective use of manpower and their functioning. Organizations are being valued not just on their physical but on their logical and intellectual capital. Employee organizational learning, work attitude, work environment and work behaviour are primitive factors of any organization which have straight influence on business operations, procedures and consequently on the business success. Employee organizational learning improves the skills, efficiency, productivity and effectiveness at the workplace. The employees interact and transfer knowledge with different business settings which leads to experience, accordingly moved to be trained with effective methods and practices at the workplace. Work attitude is the employee belief on the work in the organization. A positive attitude fosters productive thinking and productive working. Employee work behaviour qualifies employees to do work with interest and intensity. Generally, work behavior creates collaborative work make and expands the company's status. So, the modern organizations, use their resources (money, time, energy, information, etc.) for improving the employee learning, attitude, environment and behavior through training and development. The dynamic organization will always assume that supervision and implementation of the training program for their workers as an investment hoping that the improved performance as the return of that investment, and also these workers are hoped to contribute to organizational excellence and productivity.

India is the second-largest producer of steel, also stood tall amongst its global peers with 2% GDP contribution which indicates that several structural reforms implemented by the government including GST to enhance the county's future

competitiveness. Rayalaseema Ispat Nigam Limited (RINL VSP) is the only shore-based Indian integrated steel plant built with state-of-art technology, the capacity of 3.4 MT Hot metal, 3.0 MT Liquid steel, and 2.6 MT Saleable steel and stood in the fifth place among the leading steel companies of India.

Visakha steel plant intends to go for massive up-gradation of technology and skill of its personnel which will be required to meet the requirements of the steel in the country.

RINL VSP has obtained its special features of development programs. Usually, the process to identify training needs in the plant is done with the help of the annual survey, accordingly training programs are designed by consulting the line managers also. Not only that, but it also reviews constantly and records the improvements based on the feedback. Training records of each employee maintained by the concerned HODs of the departments, unit training system developed, and internal faculty development is also focused on the plant. To maintain all the mentioned activities, it is spending a huge amount of money yearly for the training and development programs. But the crucial point is its effectiveness. Training effectiveness in the steel industry is a critical aspect of the development of knowledge of the workforce. If the employee is not trained properly during the training period whatever the investment made for this program becomes squander. So, it is the part of the employer or organization to see the employee as effective through the training program. Hence, the present study aimed to examine Moderating effect of Effect of Employee attitude and work engagement on learning and behaviour in the RINL VSP.

## 2. Literature Survey

Robbins (2003) defined employee attitudes, evaluative statements and they can be either favorable or unfavorable concerning objects, people, or events. They reflect the feelings about something. The favorable statements may provide positive effects regarding the concerned object, person or event whereas unfavorable statement may provide negative effects. [1] An attitude may be a positive or negative feeling or mental state of readiness, learned and organized through experience. This definition of attitude has certain implications for managers. First, attitudes are learned. Second, attitudes define one's predilection toward given aspects of the world and third, attitudes provide emotional basis of one's interpersonal relations and identification with others. Some attitudes are persistent and enduring; yet, like each of the psychological variables, attitudes are subject to change [2].

The early family experiences help to shape the attitudes of individuals. The attitudes of young children usually correspond to those of their parents. As children reach their teen years they begin to be more strongly influenced by peers. Peer groups are able to influence attitudes because individuals want to be accepted by others. Teen ages seek approval by sharing similar attitudes or by modifying attitudes to comply with those of a group. Gibson, Ivancevich and Donnelly (1991) stated that values and attitudes develop from early childhood onward as a result of upbringing, education and experience of life. He further declared that some people's attitudes set by their late twenties/ early thirties, and others seem to be able to retain certain flexibility throughout their life [3].

### Employee behavior at work place

The behaviors of employees in the workplace have a direct correlation to the business' operations, and concurrently, its success. Typically, professional behaviors generate collaborative work product and elevate the status of the company, while poor or unprofessional behaviors have the potential to thwart productivity, decrease morale and create a poor public image.

Employee behavior is said as the way in which the employee reacts to a particular situation at work place. Employees behave prudently at work place to maintain healthy environment in the organization. Success of the organization is depended on the behavior of the employees to some extent. Behavior of the employees has a direct impact on business operations.

Capable workers or employees are very much needed for the success of an organization [4]. Employee performance is depended on His/her attitude towards work. performance of employees can be predicted by giving the behavioral importance to employee when they are at work [5]. Many studies exist on the topic of organizational behavior in HRM conducted in western environment [6]. Every organization set expectations for the employees and formulates their attitude, behavior and trust [7]. Employee attitude is most influencing factor form personality traits especially at workplace [8].

### Work and performance behavior

The diversity of behavior that people show in organizations is nearly unlimited. They tell various stories and jokes at work, celebrate successes together, comfort each other in the case of failure, fall in and out of love, shirk work, conspire against their superiors, develop peculiar rituals or knowingly exhibit behavior patterns that shake existing norms and are ostensibly directed against the interests of the organization. All of this is only briefly touched or can be found in publications that are rather met with surprise or ridicule [9][10][11]. It is almost exclusively that kind of work and performance behavior or organizational conditions and behavior that become the subject of the analysis, which serve in the authors' implicit or explicit view of the performance target.

### Learning

Learning is one of the important characteristics of human being. It starts with the birth and keeps on going along with the person. Learning can be defined as a process of obtaining new or existing information, knowledge, skills, values, preferences, etc. Learning is an inbuilt skill in a person. Not only human beings, animals and plants also learn from the environment. Capability of learning varies from person to person. Some learn in single attempt or incident some other takes several attempts and lot of efforts it may require but people will learn. The style of learning impacts the overall learning, not a person, and it also plays an important role in the career-making of a person. Learning mainly depends on the actors like motivation or encouragement and support one gets; practice one does on the task or activity; environment or the surroundings prevail; and mental group. Just like the humans, organization also learns through gaining experience, which is an important or all the companies as the creation, retention and transfer of knowledge within the organization will strengthen the organization as a whole.

## 3. Methods

RINL is one of the NAVARATHNA public sector undertakings in Andhra Pradesh. It is the corporate entity of Visakhapatnam Steel PLANT, India's first shore-based integrated steel plant established with state-of-the-art technology commissioned in 1992 with a capacity of 3.0 MTPA of liquid steel [12]. The total manpower of the company is 18032 which includes both 6218 executive and 11814 non-executives working in different divisions like Works, Projects, Mines, and Others. Non-executives consist of Unskilled, Semi-skilled, and highly skilled employees. For study Non-executive Semi-skilled and highly skilled employees working in different departments like Sinter Plant, Blast Furnace, Steel Melt Shop, CO & CCP (Coke ovens & Coal Chemical Plant), LMMM (Light & Medium Merchant Mill), WRM (Wire Rod Mill), MMSM (Medium Merchant & Structural Mill) with different designations namely technicians, charge men and foreman have been considered. As the nature of training is the same for semi-skilled and highly skilled workers in the organization, Data has been collected from all the departments by following the Stratified Random Sampling technique from the population of 8397 (semi-skilled and highly skilled) workers. The

sample size is calculated by using the Slovin's [13] Formula for Known population.

**Slovin's Formula:** -  $n = N / (1 + Ne^2)$  is used to calculate the sample size

Where, n is sample size

N is given population size

e is a margin of error

It is computed as

$$n = 8397 / (1 + 8397 * 0.05^2) = 381$$

From the sample size calculator, it is found that the required sample size for the study is 381. To collect the primary data from the sample respondents, a questionnaire has been prepared by using the different scales developed by different researchers such as Anupama Narayanan & Debra Steele Johnson [14] for Employee Attitude, Rudolf Moss [15] for Work Environment and Kirkpatrick [16] for Learning and Behaviour and tested through Confirmatory Factor Analysis for the suitability of the present work and used for the study. A total of 500 questionnaires are distributed to the sample respondents, out of which 398 filled in questionnaires were received. The remaining 102 questionnaires were not considered due to incompleteness in filling up questionnaires, blind and biased filling up and non-return of questionnaires, etc. Hence, the researcher has considered only 398 questionnaires for data analysis. So, the sample size for the study is 398.

#### 4. Research Results

##### Instrument Test Results

Factor loadings for all the items are meeting the minimum requirement of >.50 and values range between 0.67 and 0.82 which shows the strength of the loadings. Table 1 sheds evidence that the CR value and AVE values are greater than the standard values i.e. 0.7 and 0.5 respectively. Hence, it is concluded that there is no reliability issue and also no convergent validity issue based on the threshold values [14]

**Table 1: Reliability Analysis**

Variable	Items	Loadings	Cronbach's Alpha	Composite Reliability	Average Variance Extracted
Employee Attitude	EA1	0.672	0.902	0.902	0.505
	EA2	0.701			
	EA3	0.715			
	EA4	0.24			
	EA5	0.716			
	EA6	0.699			
	EA7	0.747			
	EA8	0.705			
	EA9	0.711			
Work Environment	WE1	0.723	0.842	0.881	0.514
	WE2	0.744			
	WE3	0.688			
	WE4	0.679			
	WE5	0.726			
	WE6	0.752			
	WE7	0.706			
Learning	L1	0.765	0.923	0.919	0.559
	L2	0.773			
	L3	0.713			

Behaviour	L4	0.777	0.846	0.887	0.566
	L5	0.759			
	L6	0.722			
	L7	0.767			
	L8	0.733			
	L9	0.717			
	BE1	0.744			
	BE2	0.717			
	BE3	0.764			
BE4	0.730				
BE5	0.782				
BE6	0.777				

**Table 2: Model Fit Results**

	Saturated Model	Estimated Model
SRMR	0.056	0.055
NFI	0.917	0.915

The threshold Standard Root Mean Square Residual (SRMR) and Normed Fit Index (NFI) values should be <0.08 and >0.9 respectively. From the Table 4.5 it is observed that the estimated model possesses a good and satisfactory fit [17] for the present study. Based on the results of CFA, it is concluded that the Scale adopted for conducting the present study is suitable and apt.

##### Hypothesis

H<sub>0</sub>: Employee attitude and Work Environment do not moderate the relationship between Learning and Behavior levels of the employees

**Table 3: Interaction effect of Employee Attitude and Work Environment on Learning and Behaviour**

Model : 2
X: Learning
Y: Behaviour
W: Employee Attitude
Z : Work Environment
Sample Size: 398

**Table 3 (a): Outcome Variable: Behaviour Model Summary**

R	R-sq	MSE	F	df1	df2	p
.8816	.7773	.1008	273.5862	5.0000	392.0000	.000

**Table 3 (b)**

Model	Coefficient	SE	t	p	LLCI	ULCI
Constant	4.0670	.0172	235.7703	.0000	4.0330	4.1009
Learning	.4559	.0497	9.1754	.0000	.3582	.5536
Employee	.2519	.0688	3.6635	.0003	.1167	.3871
Int_1	-.2650	.0983	-2.6951	.0073	-.4583	-.0717
Work Environment	.2511	.0619	4.0559	.0001	.1294	.3727
Int_2	.2465	.0994	2.4810	.0135	.0512	.4419
Product terms key						
Int_1	Learning X Employee Attitude					
Int_2	Learning X Work Environment					
	R2-chng	F	df1	df2	p	
X*W	.0041	7.2637	1.0000	392.0000	.0073	
X*Z	.0035	6.1556	1.0000	392.0000	.0135	
Both	.0045	3.9487	2.0000	392.0000	.0201	

As per the results, both the interaction terms were statistically significant ( $b = -.265, .246$  s.e. = .098, .099  $p = .0073, .0135$ ) in the model, indicating that Employee Attitude and Work Environment was a significant moderator between the Learning and Behavior. However, the value-added is that it contains an index of the R-square change due to the moderation effect. The R-square change was .004 and .003 individually and together shows .004 R-square change, indicating the interaction effect accounted for 0.4% added variation in Behavior. The effect of Learning on Behavior was positive and significant ( $b = .455, s.e. = .049, p = .0000$ ), conditional on Employee Attitude and Work Environment = 0; and the effect of Employee Attitude ( $b = .251, s.e. = .068, p = .0003$ ) and Work Environment on Behavior was significant ( $b = .251, s.e. = .061, p = .0001$ ), conditional on Learning = 0.

**Table4:** Conditional Effects of the Focal Predictor

Focal predictor: Learning (x)  
 Mod var: Employee Attitude (w)  
 Mod var: Work Environment (Z)

Conditional effects of the focal predictor at values of the moderator(s):

Employee	Work Environment	Effect	se	t	p	LLCI	ULCI
-.6099	-.6253	.4634	.0503	9.2111	.0000	.3645	.5624
-.6099	.0000	.6176	.0831	7.4312	.0000	.4542	.7810
-.6099	.6253	.7717	.1378	5.5984	.0000	.5007	1.0427
.0000	-.6253	.301	.0734	4.1093	.0000	.1574	.4462
.0000	.0000	.4559	.0497	9.1754	.0000	.3582	.5536
.0000	-.6253	.6101	.0852	7.1585	.0000	.4425	.7776
.6099	-.6253	.1402	.1243	1.1278	.2601	-.1042	.3846
.6099	.0000	.2943	.0723	4.0717	.0001	.1522	.4364
.6099	.6253	.4484	.0521	8.6011	.0000	.3459	.5510

Since the interaction term in the model was statistically significant, the tests of simple slopes, which test the relationship between Learning (X) and Behavior (Y) at five levels of the moderator Employee Attitude (W) and Work Environment (Z) have been conducted for better interpreting the nature of the moderated relationship between Learning and Behavior.

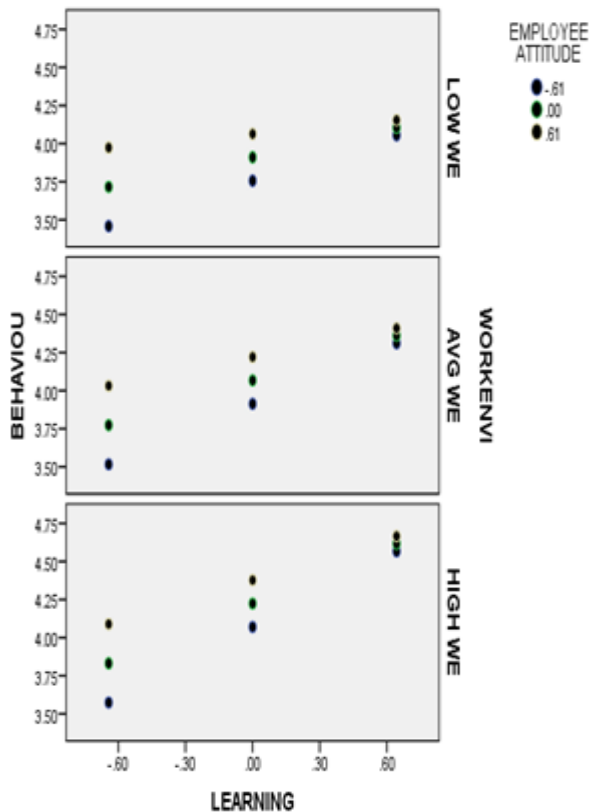
The conditional effects of the focal predictor at the values of the moderator shown that at -1 sd (i.e., at -.6099 & -.6253) on the centered Employee Attitude and Work Environment variables (representing low EA&WE), the relationship between Learning and Behavior was significant ( $b = .463, s.e. = .050, p = .0000$ ). Similarly, at the mean (i.e., at 0) on the centered moderator variable (representing medium EA&WE), the relationship was positive and significant ( $b = .455, s.e. = .049, p = .0000$ ). Finally, at +1sd (i.e., +.6099 & .6253) on the centered EA & WE (represent high EA & WE the relationship was positive and significant ( $b = .448, s.e. = .052, p = .0000$ ).

The table 5 represents the slope between the Learning (X) and Behavior (Y) of the Employee Attitude (W) and Work Environment (Z) moderator variables. It indicates the significant conditional effect including the lower class intervals and upper-class intervals.

It is found in the study that employee attitude and work environment are most important requirement for learning and behavior of the employees. Employee should have a positive attitude towards work and a congenial environment also motivate the employee towards learning. Employee attitude and environment need proper management for them to continue having a positive relationship with learning and behavior of the employees.

**Table 5**

DATA LIST FREE/			
LEARNING	EMPLOYEE	WORKENVI	BEHAVIOU .
BEGIN DATA.			
-.6433	-.6099	-.6253	3.4582
.0000	-.6099	-.6253	3.7563
.6433	-.6099	-.6253	4.0544
-.6433	-.6099	.0000	3.5160
.0000	-.6099	.0000	3.9133
.6433	-.6099	.0000	4.3106
-.6433	-.6099	.6253	3.5739
.0000	-.6099	.6253	4.0703
.6433	-.6099	.6253	4.5667
-.6433	.0000	-.6253	3.7158
.0000	.0000	-.6253	3.9100
.6433	.0000	-.6253	4.1041
-.6433	.0000	.0000	3.7737
.0000	.0000	.0000	4.0670
.6433	.0000	.0000	4.3602
-.6433	.0000	.6253	3.8315
.0000	.0000	.6253	4.2239
.6433	.0000	.6253	4.6164
-.6433	.6099	-.6253	3.9735
.0000	.6099	-.6253	4.0636
.6433	.6099	-.6253	4.1538
-.6433	.6099	.0000	4.0313
.0000	.6099	.0000	4.2206
.6433	.6099	.0000	4.4099
-.6433	.6099	.6253	4.0891
.0000	.6099	.6253	4.3776
.6433	.6099	.6253	4.6661
END DATA.			
GRAPH/SCATTERPLOT=			
Learning With	Behaviou By	Employee /Panel	
Rowvar= Workenvi .			



### Interaction Plot

The interaction plot represents the low, medium, and high levels of Employee Attitude and Work Environment towards Learning and Behavior levels of the employees. Three of the levels are parallel but not exactly parallel. Respondents with a low level of Employee Attitude, increasing Work Environment leads to increase in Behavior levels of the employees. The slope effects at a low level, mean level, and high level of the moderators were also significant.

## 5. Conclusion

The study aimed to examine the moderating effect of employee attitude and work environment on learning and behavior levels of the employees. A discussion on the various constructs relating to this relationship is done. The study results show that employee attitude and work environment have a moderating effect on learning and behavior of the employees. There is a similarity between the findings of this study and previous research literature reviewed.

## 6. Future Scope

The present study has certain limitations and future research may focus on the following issues. The study is limited to examine semi-skilled and highly skilled workers, further specific studies may provide more clear results. As the study is restricted to measure the moderation effect, further studies may focus on the mediation effect of work attitude and work environment between learning and work attitude. Further studies may also focus on moderation effect of demographic variables in this relationship.

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