

AN ANALYTICAL ASSEMENT OF THE IMPACT OF
INNOVATION ON EMPLOYEE ENGAGEMENT IN ENGINEERING
SECTOR, CHENNAI CITY CORPORATION

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Abstract

Employee engagement is a stirring obligation and zeal employees perceive for their organization, persuading them to go beyond the call of duty. It advocates dedication and commitment whereby motivating the employee to go an extra mile for a better business outcome. Employee engagement is a systematic workplace approach which establishes emotional investment and psychological connection of employees with the organization. It assists the organization by reducing the burden of employee turnover, absenteeism or burnout. As the labour market is getting expanded and stiff competition has become a challenge for any organization; employee engagement is the only possible option for the organization to retain its talent heads. The available elements like career growth, recognition, job responsibility, job rotation and motivation also forms a part of engagement, out of which, innovation play a greater role. Innovation at workplace is a judicious undertaking by an organization to achieve its desired goals through contemporary ideas, methods and procedures keeping its employees in par with the significant advancement. Innovation is one of the tools that could keep employee engaged. Engaged employee prefer to stay in tune with the latest techniques and strategy by identifying the gaps and work on the areas of their concern. They are inclined to maintain the status quo and try to contribute novel ideas. Engaged employees opine when they observe any situation that calls for fixing, as they feel their opinions are considered. This induces them to take the ownership leading to increased productivity. This research paper analyzes the positive effect of innovation on employee engagement.

(1) Background of the study: The underlying intent of this research work is to exemplify that innovation has a profound impression on employee engagement.

(2) Methods: A quantitative descriptive, non probability sampling research design was integrated to acquire information. Primary and secondary data were employed for the said purpose. 150 individual employees from engineering industry belonging to private sector were surveyed to come out with data analysis and interpretation. "Innovation" is an ongoing operation which is closely associated with the demographic aspect such as age, experience, education, designation and the like. A questionnaire with Likert five point scale was designed and distributed to proceed with the survey. SPSS (Statistical Package for Social Science) version 20.0 was used to deep dive into conclusion. The statistical tools like mean, standard deviation were used. Inter Correlation Analysis, Hypothesis Test Summary, Chi Square Test, Multivariate Analysis, Linear Modeling Radial Basis Function were also applied to validate the findings of the study.

(3) Result: The study evinced that there exist an intense interconnection between innovation and employee engagement. The cognition of this research paper is also to state that innovation should also be considered as a dominant dimension in case of employee engagement apart from the available dimensions.

(4) Conclusion: The involvement of the employees tends to reach heights if they discern that they are form the integral part of the organization. A raise in the morale level of an employee will stimulate the performance for which "innovation" acts a spur. The essence of employee engagement could be realized only when employees assent change management. A change management happens out of innovation. Introducing innovative plans or functions integrates job rotation or enlargement taking the edge of monotony facilitating employee engagement.

Keywords: Commitment, motivating, workplace, emotional, employee turnover, absenteeism, burnout, career growth, recognition, job responsibility, job rotation, productivity

1. INTRODUCTION

The development and advancement of 'Employee engagement' has gained ground from basic satisfaction to employee wellbeing, partaking psychological attributes, focused productivity and employee experience. This conception dates back to 1970's focusing on basic needs and has taken a momentous escalation to holistic wellbeing by mid 2010's, where, the current trend is 'whole-person' focus. In the pre-industrial epoch the craftsmen, artisans or the agriculturalist realized a gratification at their work. The industrial revolution disrupted the nature of the work by establishing factories supplanting independent business units. Jobs became necessity than satisfaction as employees were looked upon for organization's growth. This led to loss of motivation, lack of morale and high turnover, while, the introduction of 'Scientific management' emphasized more on productivity and efficiency. The pivotal moment then was the "Hawthorne Studies" which changed the entire scenario to "Human Relations Movement". While in 1990's the paramount prominence was "Employee engagement" clearly defined by William Kahn. The concept of "Human Resource Development" can now be termed as "Human Resource Capital" as employees are deemed as "Human Capital" in the recent era. The term "Employee engagement" obtains its prominence due to the convolution in the state of "Employability" apropos to HR. It is the instinctive manifestation where the employees exhibit an affirmative action (Dhanya et al, 2019). Employee engagement is conceptualized into employee satisfaction, employee experience and DEI. It has now transformed into a new realm where "Innovation" exert a strong influence. The term "Innovation" has given a new description for the word "Change". Most of the organization had to absorb from the past and analyze the future so that its performance is on pace with the market trend. Change in the external environment like technology and trends have steered the development of the management prompting for innovation.

According to Shalley et al. (2004) innovation advocates employees to formulate and initiate prolific proposals. Encouraging employees to indulge in innovation fosters enhancement in productivity as employees experience their value. Innovation at workplace has become a crucial aspect for every organization to survive in the competitive market. Organizations that encourage employee engagement by cultivating innovation encounter very minimum resistance to change aligning its opportunities to meet its ultimate goal (Hussain and Zhang, 2023). Appreciating innovation and creativity is a strategic human resource proposal Tidd and Bessant (2018). Organization that nurtures innovation acknowledges their employees as indispensable assets who are competent in providing and implementing creative executions. Innovation is not restricted to creativity; it is positioning ideas into operation. Engaging an employee through innovation at workplace actualize their expertise for the progress of the organization (Harish. M et al, 2024).

1.1. Materials and Methods

Questionnaire was used to gather the details from the respondents for purpose of completing the study through exploratory research. To substantiate the rationality of the questionnaire pilot survey was undertaken with ten respondents. Convenience sampling was used to collect the data from the rest 140 employees from engineering sector in Chennai city. SPSS 20.0 and Microsoft Excel were used to interpret the data collected and to obtain the conclusions.

1.2. Statistical Tools and Calculations

To analyze the integrity of elements, SPSS 20.0 was exercised and descriptive statistics like frequency test, cross tabs, network neighborhood analysis, cluster model test, chi-square test, paired sample test and correlation were applied.

2. ANALYSIS AND INTRPRETATION

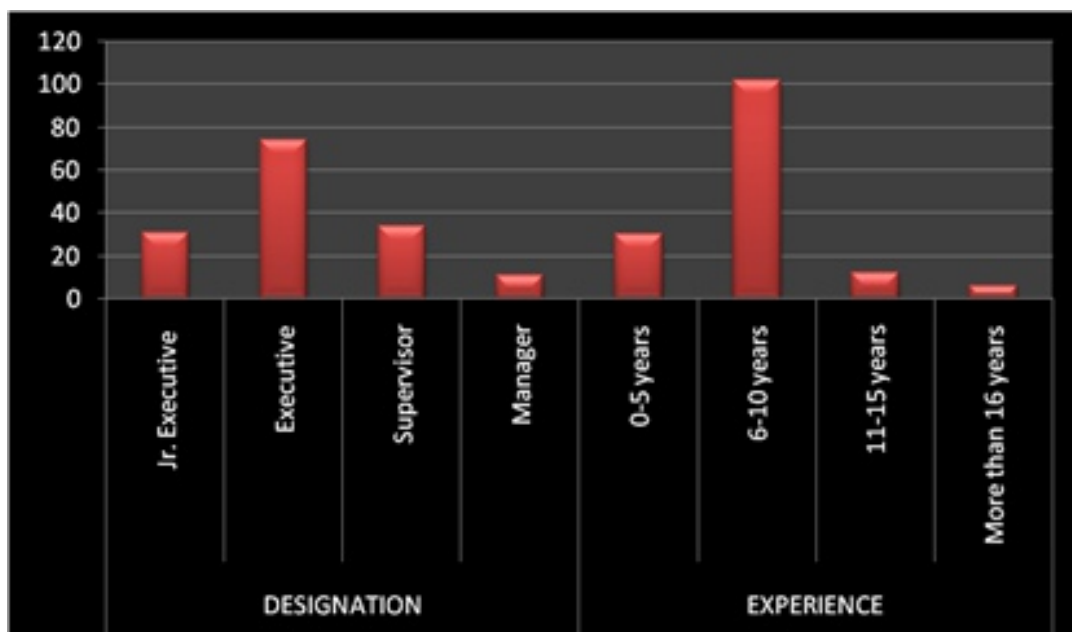
Table 1: Demographic Classifications of the respondents

Particulars		Frequency	Percent	Mean	Median	Std. Deviation
Gender	Male	90	60.0	1.40	1.00	.492
	Female	60	40.0			
Age	Less than 25 yrs	26	17.3	2.56	3.00	1.065
	26-35yrs	46	30.7			
	36-45 yrs	54	36.0			
	45-50yrs	16	10.7			
	above 50 yrs	8	5.3			
Education	Certification	9	6.0	3.16	3.00	.883
	Diploma	21	14.0			
	UG	57	38.0			
	PG	63	42.0			
Income	Up to Rs.15000/-	40	26.7	2.11	2.00	.883
	Rs.15000/-- 30000/-	65	43.3			
	Rs.30000/- - 40000/-	34	22.7			
	Above Rs. 40000/-	11	7.3			
Designation	Jr. Executive	31	20.7	2.17	2.00	.839
	Executive	74	49.3			
	Supervisor	34	22.7			
	Manager	11	7.3			
Experience	0-5 years	30	20.0	1.96	2.00	.664
	6-10 years	102	68.0			
	11-15 years	12	8.0			
	More than 16 years	6	4.0			

The table above shows the categories where the respondents belong. Majority of the respondents are male forming 60% where the age bracket of 36-45 years dominates the other class intervals. Most of the respondents are qualified with post graduation

which is 42% followed by under graduation. 65% of the respondents go with the income level between Rs.15000/- and Rs.30000/- and they belong to the designation of executives with 6-10 years of work experience.

Fig 1.a: Chart representing the classifications of the respondents according to designation and experience



The chart provided above depicts the number of respondents in the said classification that affirms

the demographic status in table 1.

Table 2: Paired Sample Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Career Growth - Employee Engagement	-.107	.725	.059	-.224	.010	-1.802	149	.074
Pair 2	Recognition - Employee Engagement	.033	.862	.070	-.106	.172	.473	149	.637
Pair 3	Job Involvement - Employee Engagement	-.047	.907	.074	-.193	.100	-.630	149	.530
Pair 4	Flexibility to Change - Employee Engagement	-.193	.800	.065	-.322	-.064	-2.959	149	.514

Table 2 sketches the relationship between employee engagement and various other factors. p value which is 0.05 is less than the alpha level chosen. Null hypothesis which states that there is correlation between employee engagement and the other mentioned aspects is thus accepted. It is evident

from the paired sample test that alternate hypotheses are rejected. Null hypotheses being there exists a strong bond between employee engagement and career growth, recognition, job involvement and adaptability to change are accepted.

Test 1: Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of CAREER GROWTH is the same across categories of EMPLOYEE ENGAGEMENT.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
2	The distribution of RECOGNITION is the same across categories of EMPLOYEE ENGAGEMENT.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
3	The distribution of JOB INVOLVEMENT is the same across categories of EMPLOYEE ENGAGEMENT.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
4	The distribution of FLEXIBILITY TO CHANGE is the same across categories of EMPLOYEE ENGAGEMENT.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Non Parametric Test was employed to ratify the conclusion derived from paired sample test. It is apparent from the above Test 1 that the null hypotheses are accepted.

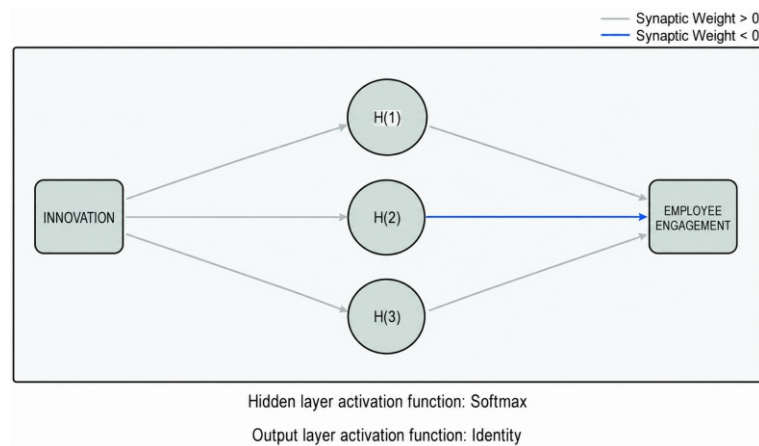
Table 3: Paired Sample Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Innovation - Physical Engagement	-.560	1.084	.088	-.735	-.385	-6.329	149	.000
Pair 2	Innovation - Cognitive Engagement	-.667	.887	.072	-.810	-.523	-9.201	149	.000
Pair 3	Innovation - Emotional Engagement	-.167	.595	.049	-.263	-.071	-3.428	149	.001

Table 3 outlines the interconnection of innovation with avenues of employee engagement. The table value appears to be less than the p value which is 0.05. This implies that the null hypotheses are rejected. Null hypotheses emphasizes that

innovation does not go parallel with physical, cognitive and emotional engagement, which is rejected. Thus table 3 establishes that there exist a strong bond between innovation and the scopes of employee engagement.

Model 1: Radial Basis Function



The radial basis function model above portrays the corroboration between innovation and employee engagement. It highlights the connections between

the two variables established through the dimensions of employee engagement, confirming the

Table 4: Correlation

		Innovation	Employee Engagement
Innovation	Pearson Correlation	1	.607**
	Sig. (2-tailed)		.000
Employee Engagement	Pearson Correlation	.607**	1
	Sig. (2-tailed)	.000	
**. Correlation is significant at the 0.01 level (2-tailed).			

he tests and measurements that were specified previously deliberate a positive liaison between facets of innovation and employee engagement. The correlation test was carried out to examine the

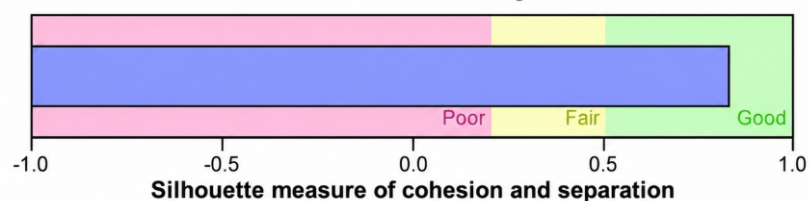
closeness of innovation and employee engagement. Table 4 above manifests that null hypothesis which implies that there exists no correlation between innovation and employee engagement is rejected.

Model 2: Two Step Cluster

Model Summary

Algorithm	TwoStep
Inputs	2
Clusters	2

Cluster Quality



The correlation table affirms the relation between innovation and employee engagement. In order to analyze the depth of effect of innovation on employee engagement two step cluster model was leveraged, inputs and clusters being the two dimensions of the study. It is evident from the Model 2 innovation makes a positive difference in the employee engagement. The silhouette measure of cohesion has forged ahead reaching the level of

good. Employee engagement could be realized with various perspectives but in a point of time the sense of monotony has its own command on the productivity. This may be the reason for the measurement yet to reach the goodness level. To overcome the said issue innovation is the only specification. The more an organization emboldens innovation the more it can stimulate employee engagement.

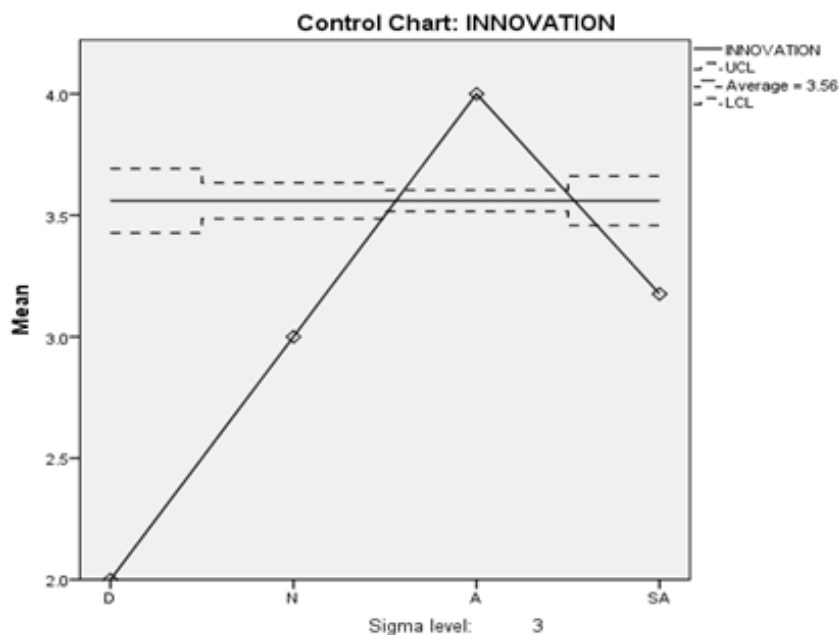
Table 5: Descriptive Statistics

	N	Mean	Std Deviation	Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic
Innovation	150	3.56	.640	.228	.394
Employee Engagement	150	3.77	.737	.454	.394
Valid N (listwise)	150				

The descriptive statistics was used to gauge the mark the impact of innovation on employee engagement. The Kurtosis level remains to be more than the average which indicates that the influence

of innovation is to be considered in case of employee engagement. To get a better reflection control chart was used.

Model 3: Control Chart



The control chart exemplifies that notion arrived in table 5 with reference to Kurtosis. The heavy tail and sharp peak represent the magnitude of innovation

on employee engagement. The kurtosis is Leptokurtic, which means a positive imprint of innovation at workplace.

Model 3: Control Chart

Cronbach's Alpha	N of Items
.851	2

The reliability Statistics was employed to identify the accuracy of control chart and kurtosis level. It is apparent from the table 6 that innovation has its own stand on engagement as the Cronbach's level shows a strong internal consistency with more than 0.80 level.

1. DISCUSSION AND CONCLUSION

The inference of this study illuminates the intricate association between various determinants that drives employee engagement through innovation at workplace. The four sample dimensions taken as a part of innovation being career growth, recognition, job involvement and flexibility to

change creates edge for employee engagement. It is also deliberate that innovation has a steady fast impact on the aspect of employee engagement like physical, cognitive and emotional engagement. Analysis like Kurtosis and Reliability test gives a clear insight of the interconnectedness of both the variables that are subjected to examination. This suggests that innovation has a greater influence on employee engagement. Employees who anticipate a better opportunity, growth or escalation of position tend to exhibit a higher level of engagement. Job rotation and enlargements along with specified job

description and responsibilities helps to overcome the tedium and repetitive task enhancing employee engagement. At this juncture innovation tends to play the key role. By fostering a work environment that nurtures innovation organization can convincingly invigorate employee engagement. Innovation is a vital key element for any organization to withstand the cutthroat competition in the business world. The dynamic nature of the market intensifies the depth of innovation in engagement. The management or the human resource department has to be mindful of the individual factor that affects employee engagement along with the traces of innovation. Highly engaged employees who are exposed to innovation deem to have a stake in the organization hence boosting their productivity level. The reason behind a meager gap in level of goodness in the two step cluster model is that the employees/respondents have a conception that innovation could not be applied in every perspective employee engagement, as the latter is a broader area. However, it is also admitted that there are diverse behaviors and components that can fortify innovation and engagement.

2. FUTURE RECOMMENDATION

Progressing with future research other indicators like leadership style, organization culture, work life balance and the like can also be explored to augment the study. The long term cause and effect of innovation on employee engagement can be investigated to upgrade the organizational performance. The current research study is restricted to engineering industry in private sector, while, in future it can also be extended to other nature of industries which can include public

sectors undertaking also. In case of designation top level authorities can also be included as respondents so as to understand the nature of policies and strategies that can enrich innovation is identified.

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