Employee Engagement and Job Satisfaction Among Multi- Generational Workforce in Cement Manufacturing Industry

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ABSTRACT

The cement manufacturing industry is facing the challenge of a multi-generational workforce, which emphasizes the importance of employee engagement and job satisfaction. This study investigates the impact of generational disparities on employee engagement and job satisfaction in the cement manufacturing sector. Specifically, this study examines the influence of employee rewards, perceived company brand, autonomy, learning and development, well-being, pay, career opportunities, organizational culture, manager relationship, work-life balance, and challenging work on employee engagement. Additionally, the study explores the relationship between employee engagement and job satisfaction. The study collected data from 250 participants, and the responses were analyzed using SPSS, applying both multi-regression and linear regression techniques. The results reveal that rewards, perceived company brand, autonomy, learning and development, well-being, pay, career opportunities, organizational culture, and manager relationship have a positive impact on employee engagement. However, work-life balance and challenging work have a negative impact on employee engagement. Moreover, the linear regression analysis shows that employee engagement positively affects job satisfaction. Furthermore, the study found that GenY and GenZ employees have higher levels influence of autonomy, work-life balance, organizational culture, well-being, pay, challenging work, career opportunities, learning and development opportunities, and perceived company brand on employee engagement levels when compared to GenX employees. GenY employees also have a high influence towards employee engagement, particularly in terms of pay. The analysis further revealed that manager relationship, rewards, employee engagement, and job satisfaction were highly influential for GenY employees compared to GenX and GenZ. These findings can help cement manufacturing industry leaders understand the generational differences and tailor their strategies to create a more engaging and satisfying work environment for all employees.

Keywords: employee engagement, job satisfaction, career opportunities, work-life,

INTRODUCTION

The Indian cement sector has become increasingly competitive in recent years, prompting cement manufacturing firms to recognize the significant role their employees play in maintaining sustainability and competitiveness in the market. Employee engagement is a key factor in achieving higher levels of organizational efficiency, which in turn leads to better performance, productivity, and profitability. As a result, encouraging high levels of employee engagement is crucial for success in the cement industry (Madhooha, 2019).

Employee productivity plays a pivotal role in the success of an organization and the well-being of its workforce. The evaluation of productivity involves analyzing the output of goods or services, comparing input-output ratios, meeting deadlines, and ensuring high-quality performance. The attainment of organizational objectives hinges on individual performance, and effective management necessitates an understanding of human behavior. As such, prioritizing employee productivity is crucial for maximizing organizational efficiency and enhancing employee satisfaction (Arifin, Nirwanto & Manan, 2019). Maximizing employee productivity is a top priority for any organization. To achieve this goal, companies invest heavily in employee training and development programs aimed at enhancing their skills and knowledge in their respective fields. However, employee engagement is another crucial factor in building a highly productive workplace, where all team members are motivated to give their best efforts in support of the organization's objectives and core values. Employee engagement initiatives not only lead to better performance and increased productivity, but they also foster a work environment that prioritizes personal well-being and job satisfaction. Ultimately, this can help the organization succeed and achieve sustainable growth (Juevesa & Castino, 2020).

Alignment between an organization's strategy and HRM policies and procedures is essential for creating a productive and satisfying work environment. Employees are the most valuable resource of an organization, and it is crucial to identify the factors that can inspire and engage them, leading to job satisfaction. Motivated and satisfied employees are more likely to perform better, positively impacting the organization's performance. Therefore, managers should be aware of the importance of employee involvement and how it affects their work. Low involvement can have a negative impact on corporate performance. Although achieving high employee involvement is not an easy process, it is essential for organizational success (Riyanto, Endri & Herlisha, 2021).

The contemporary workforce is comprised of three distinct generations: Generation X, Generation Y (also called Millennials), and Generation Z. Generation X is the demographic cohort that follows the baby boomers and precedes the millennials. Millennials, or Generation Y, were born between 1982 and 1994 and are recognized for their innate understanding of technology, while Generation Z, born from the late 1990s to early 2010s, are regarded as digital natives(Victor & Hoole, 2017). Every generation possesses distinct qualities and inclinations that can impact their actions and decisions in the workplace (Angeline, 2011). While having employees from different generations in the workplace can bring a range of perspectives and strengths, it can also create challenges in managing human resource policies and systems that cater to the specific needs of employees from various generations. For instance, organizations may need to consider offering a variety of benefits and flexible work

arrangements to meet the diverse needs and expectations of their multi-generational workforce (Mencl & Lester, 2014).

The fast-paced business environment of today presents several challenges for employees. Establishing a solid rapport between employees and their managers is essential to overcoming these obstacles and achieving an engagement rate of 80%. Because they bring their own special talents, expertise, ideas, and goals to the table, engaged employees are essential to the success of any business. The organizational culture and features are key factors in encouraging employee responsibility. Sand, concrete, and other minerals are used to make cement in India, which has the second-largest industry in the world after China. Nevertheless, the cost of cement is increasing as industry competition heats up. Because of this, businesses are building their own power plants to produce electricity from coal and garbage (Vyas & Hebbal, 2022). Any business must priorities employee satisfaction because it is correlated with lower turnover rates. Employers must therefore put a high priority on ensuring that their staff members are content with their jobs. Although this is a well-known fact in management, employers occasionally overlook it during recessions. Due to a variety of factors, including high levels of stress, poor communication, a lack of recognition, or little prospects for professional advancement, employees may get disenchanted with their professions. Even in difficult economic circumstances, management must actively work to address these issues to lower turnover rates. Turnover costs should be avoided because they can add up quickly for a company (Gregory, 2011). Employees that are happy with their jobs are more likely to adhere to corporate policies, make suggestions for change, and collaborate well. This results in a creative, high-performing company with workers who are socially integrated. Additionally, research has shown a positive correlation between employee happiness and customer satisfaction (Tov & CHAN, 2012). Employee performance and contributions to the company are improved when there is an emotional connection between them and their position, fellow employees, and the organization. Such a connection is essential to a company's success (Bin & Shmailan, 2015).

Due to their dangerous working environments, developing workers have a higher chance of getting health problems. Workers in this industry are exposed to physical, chemical, and biological agents, and there are a significant number of fatal and non-fatal injuries. Health difficulties include digestive disorders, pain in the body, and respiratory problems. Due to physical and psychosocial conditions at work, the risk of acquiring health issues doubles. Despite this, employees frequently lack basic knowledge and aren't aware of ways to lower their health risks (Ananda & Siddegowda, 2021). The present study aimed to investigate the connection between job satisfaction and employee engagement among the multigenerational workforce in the cement manufacturing business. The research specifically aims to investigate how various generational traits and workplace variables affect employee engagement and job satisfaction.

LITERATURE REVIEW

In a study by Goh and Lee (2018) on multigenerational workforces, the authors explored the challenges faced by different generations and proposed the Theory of Planned Behavior (TPB) as a means of fostering a positive outlook to overcome such difficulties. Similarly, Higginbottom (2016) examined the critical issues arising from a multigenerational workforce

comprising employees from five different generations. Higginbottom advised companies to view differences as an opportunity and effectively leverage both the experience and enthusiasm of their workforce. Beasley (2017) proposed addressing the varying expectations, needs, and approaches of Baby Boomers and Gen-Y to meet their evolving needs in the workplace. Celeste (2015) emphasized the importance of understanding the unique traits and motivations of different generations in a multigenerational workforce. Each generation is motivated differently and businesses should tailor their approach to motivate each group effectively. Deepika et al. (2018) highlighted the existence of perception differences between generations and suggested that incentive systems should be tailored and adaptable to cater to each generation's specific needs.

Gausepohl (2016) proposed collaborative and dynamic solutions to help organisations motivate a workforce made up of different generations. Rivera (2016) recommended mitigation strategies for dealing with generational conflicts, which pose a significant problem for multigenerational organisations. Jackson (2018) suggested that human resource managers should put stereotypes aside and keep an open mind to turn organizational obstacles into opportunities. Kang et al. (2016) highlighted difficulties faced by a multigenerational workforce due to disparities in values, culture, communication, and work habits, and recommended that leaders have a big picture perspective and recognise the work of all generations, regardless of age.

Lewis and Wescott (2017) found that organizations that embrace generational differences and use them to their advantage can achieve long-term success. Peralta (2021) suggested respecting each age group, rewarding based on performance, and keeping open lines of communication to effectively manage a multigenerational workforce. Lapoint and Spence (2017) suggested that restructuring organizations based on the distinctions between Baby Boomers, Post-Boomers, and Gen-Y in terms of employee engagement, thinking, feeling, and goal achievement can provide a competitive edge. Poongavanam and Viswanathan (2017) suggested that implementing suitable recognition and motivating plans can help prevent labor turnover and low productivity in a multigenerational workforce.

Poongavanam and Viswanathan (2017) found that teamwork, knowledge sharing, good leadership, and retention tactics are key factors in improving productivity in a multigenerational workforce. Similarly, Mansingh and Reddy (2021) focused on resolving generational conflicts in the workplace by enhancing community connections and understanding each group's perspective. Satpathy, Patnaik, and Palai (2018) emphasized the need for individualized reward, incentive, and motivational techniques to engage age-diverse workforces, and also highlighted the importance of cultural awareness in hiring, retaining, and motivating employees from different generations. Kang et al.'s (2016) study on Smart Manufacturing Trends also highlighted the challenges of managing a multigenerational workforce in these organizations. Lastly, Satterfield (2020) discussed the importance of information exchange and workplace interaction in overcoming technological obstacles in the manufacturing industry. The manufacturing sector, and specifically the cement industry, has received limited attention in research related to multigenerational workforces. There is a need for more academic and industry attention to be given to generational differences in this field. Existing literature suggests various factors that impact employee engagement, but it is not

clear which factors affect which generation in the cement industry. Further research is needed to identify the specific challenges and opportunities associated with managing a multigenerational workforce in this sector.

METHODOLOGY

The study's primary objective was to investigate how different generations of workers in the cement industry felt about their jobs and how engaged they were in their work. For this analysis, we used quantitative data analysis, which refers to an effort to thoroughly explain the significance and outcome of the data features. It was a subjective eccentric method that concentrated on interpretive tools for the study of the information gathered. In order to obtain information from the workers, evaluations were made using a 5-point Likert Scale. This primary data was translated into a numeric code so that statistical analysis and visualization could be carried out using quantitative approaches. The data was analyzed using Microsoft Excel and IBM SPSS. As a result, it was feasible to describe and comprehend the logic that controlled the relationships within the working group under investigation.

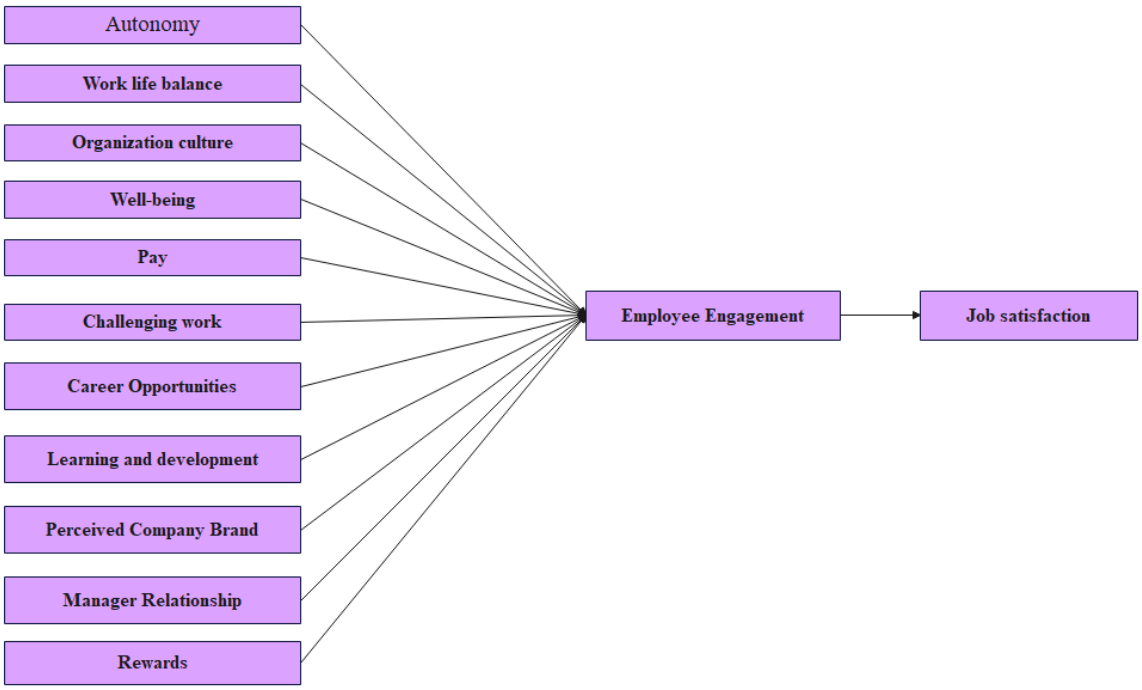

Figure 1: Proposed Research Model of the Study

Data Collection The study utilized a quantitative survey approach to collect data from employees working in the cement manufacturing sector in India. A questionnaire was designed consisting of various demographic and work-related questions to investigate the impact of generational differences on employee engagement. The sample included employees from different generations, and the data was analyzed using statistical techniques to identify patterns and relationships between variables. The employee engagement scale was captured from Aon Hewitt model.

Table 1: Variables and scale

Variable Used	Scale
Autonomy	Breaugh (1999)
Work Life Balance	Smeltzer et al. (2016)
Organization Culture	Naor, Linderman and Schroeder (2010)
Well Being	Pradhan, R. K., & Hati, L. (2022)
Employee Engagement	Hewitt, A. (2012).
Job Satisfaction	Mueller and McCloskey (1990)
Challenging work	Jenkins, Rose and Lovell(1997)
Career Opportunities	Weng(2018)
Learning and Development	Hung et al. (2010)
Company Brand	Dutta & Dhir, (2021)
Manager Relationship	Cook & Wall (1980)
Rewards	Vegchel et al. (2002)

DATA ANALYSIS

LINEAR REGRESSION

Linear regression is used in statistics to predict a continuous dependent variable given a collection of independent inputs. This technique is widely utilised for predictive analytics across diverse domains. Correlation analysis is a robust technique that facilitates comprehension of the associations among diverse variables and can be employed to detect patterns and forecast future outcomes. Linear regression is a statistical method that can be applied to forecast various outcomes, including but not limited to sales, customer satisfaction, and production costs. The technique can additionally serve to ascertain associations among variables, while also revealing plausible causal relationships.

MULTI-REGRESSION ANALYSIS

Multi regression analysis is a method used by statisticians to examine the link between a number of potential causal variables and an outcome variable. You may use it to evaluate the strength of associations between independent and dependent factors and the predictive power of independent variables. When there are a large number of potential influences on the dependent variable, researchers turn to multivariate regression analysis to determine which factors are most important. This strategy also uncovers potential influences on the dependent variable from the interactions between the independent ones. The effects of several independent factors on the dependent variable may be analysed using multi regression analysis, not only the effects of a single independent component.

MANOVA ANALYSIS:

The table below provides descriptive statistics for each group and dependent variable, such as the mean and standard deviation.

Table 2 Descriptive Statistics

	Generation	**Mean**	**Std. Deviation**	**N**
AUTONOMY	Gen X	2.353	0.71823	83
	Gen Y	2.932	0.51186	84
	Gen Z	2.86	0.81489	83
	Total	2.715	0.68166	250
WORK LIFE BALANCE	Gen X	2.6036	0.33524	83
	Gen Y	3.7064	0.25521	84
	Gen Z	2.4693	0.37278	83
	Total	2.9264333	0.3210767	250
ORGANISATION CULTURE	Gen X	2.7198	0.95612	83
	Gen Y	3.1421	0.73121	84
	Gen Z	2.8983	0.98175	83
	Total	2.7534	0.8896933	250
WELL BEING	Gen X	2.5216	0.32534	83
	Gen Y	3.8164	0.24531	84
	Gen Z	2.4573	0.36178	83
	Total	2.9317667	0.31081	250
PAY	Gen X	2.6158	0.92211	83
	Gen Y	3.2145	0.85111	84
	Gen Z	2.7583	0.98995	83
	Total	2.8730333	0.9210567	250
CHALLENGING WORK	Gen X	2.6537	0.547	83
	Gen Y	3.0712	0.354	84
	Gen Z	2.8097	0.78	83
	Total	2.8448667	0.5603333	250
CAREER OPPORTUNITIES	Gen X	2.3454	0.245	83
	Gen Y	2.9835	0.142	84
	Gen Z	2.5671	0.57	83
	Total	2.632	0.319	250
LEARNING AND DEVELOPMENT	Gen X	2.2457	0.871	83
	Gen Y	2.8654	0.551	84
	Gen Z	2.4985	0.684	83
	Total	2.5365333	0.702	250
COMPANY BRAND	Gen X	2.9871	0.5621	83
	Gen Y	3.3211	0.3689	84

	Gen Z	3.0984	0.4782	83
	Total	3.1355333	0.4697333	250
MANAGER RELATIONSHIP	Gen X	2.4784	0.7451	83
	Gen Y	2.8763	0.5567	84
	Gen Z	2.6572	0.6921	83
	Total	2.6706333	0.6646333	250
REWARDS	Gen X	2.3124	0.6354	83
	Gen Y	2.7541	0.245	84
	Gen Z	2.5541	0.4784	83
	Total	2.5402	0.4529333	250
EMPLOYEE ENGAGEMENT	Gen X	2.5678	0.6541	83
	Gen Y	2.8786	0.3561	84
	Gen Z	2.7254	0.5471	83
	Total	2.7239333	0.5191	250
JOB SATISFACTION	Gen X	2.4996	0.4521	83
	Gen Y	3.0785	0.3245	84
	Gen Z	2.854	0.3875	83
	Total	2.8107	0.3880333	250

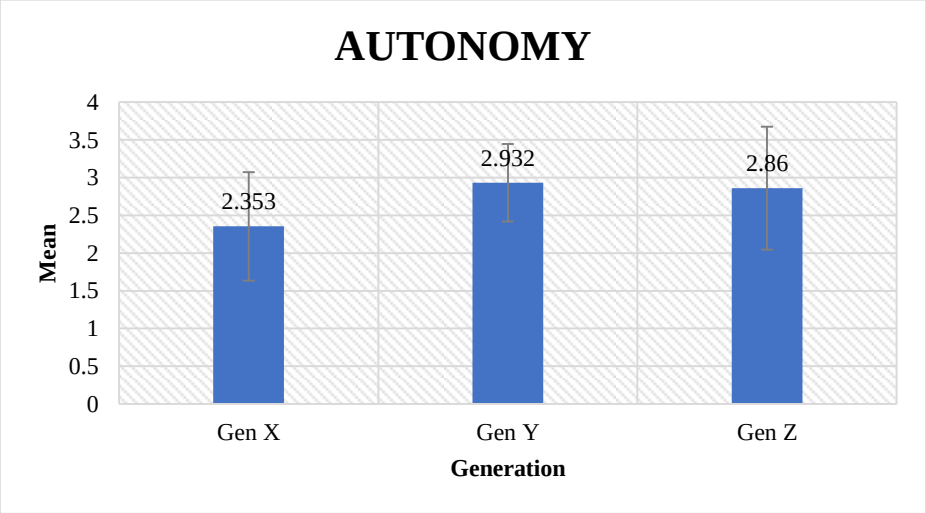

Figure 2 Mean Error plot for Autonomy

The above plot is the mean error plot of dependent variable ***Autonomy*** and independent variable groups (GenX, GenY and GenZ). The mean values of GenX, GenY, GenZ are 2.353, 2.932, 2.86 and standard deviations are 0.71823, 0.51186 ,0.81489 respectively.

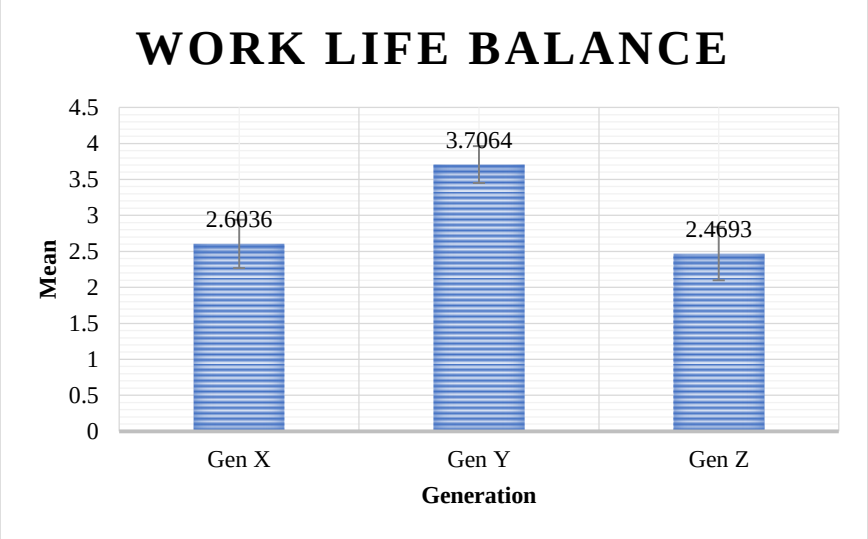

Figure 3 Mean Error plot for Work life balance

The above plot is the mean error plot of dependent variable ***Work life balance*** and independent variable groups (GenX, GenY and GenZ). The mean values of GenX, GenY, GenZ are 2.6036, 3.7064, 2.4693 and standard deviations are 0.33524, 0.25521 ,0.37278 respectively.

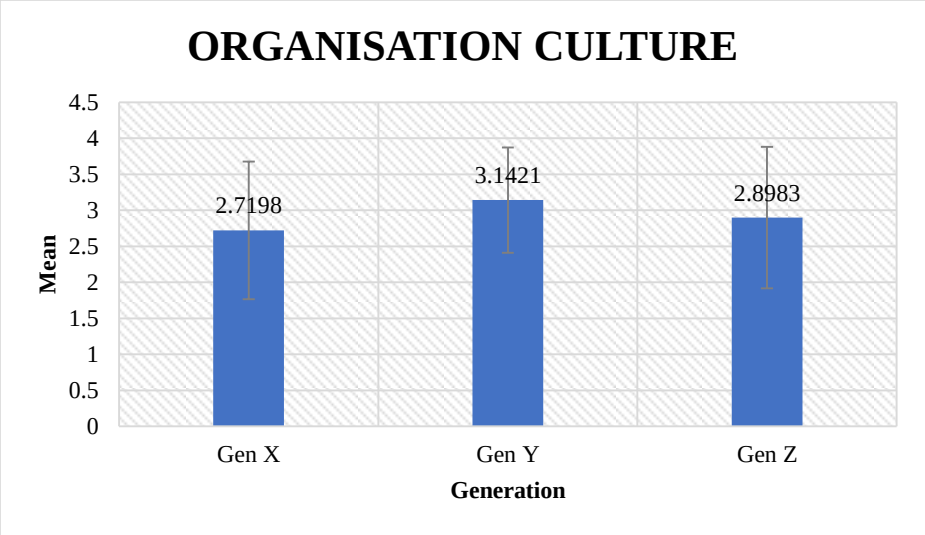

Figure 4 Mean Error plot for Organization Culture

The above plot is the mean error plot of dependent variable ***Organization Culture*** and independent variable groups (GenX, GenY and GenZ). The mean values of GenX, GenY, GenZ are 2.7198, 3.1421, 2.8983 and standard deviations are 0.95612, 0.73121, 0.98175 respectively.

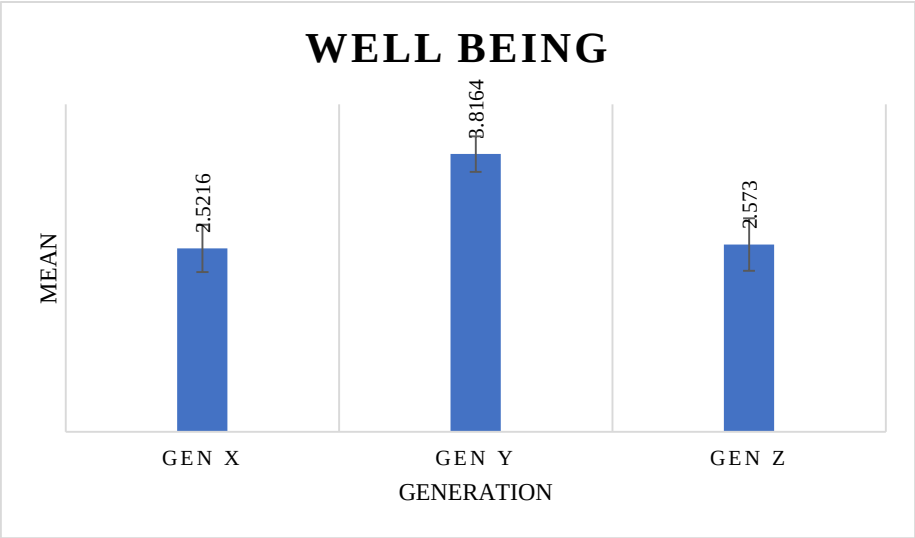

Figure 5 Mean Error plot for Well being

The above plot is the mean error plot of dependent variable ***Well-being*** and independent variable groups (GenX, GenY and GenZ). The mean values of GenX, GenY, GenZ are 2.5216, 3.8164, 2.573 and standard deviations are 0.32534, 0.24531, 0.36178 respectively.

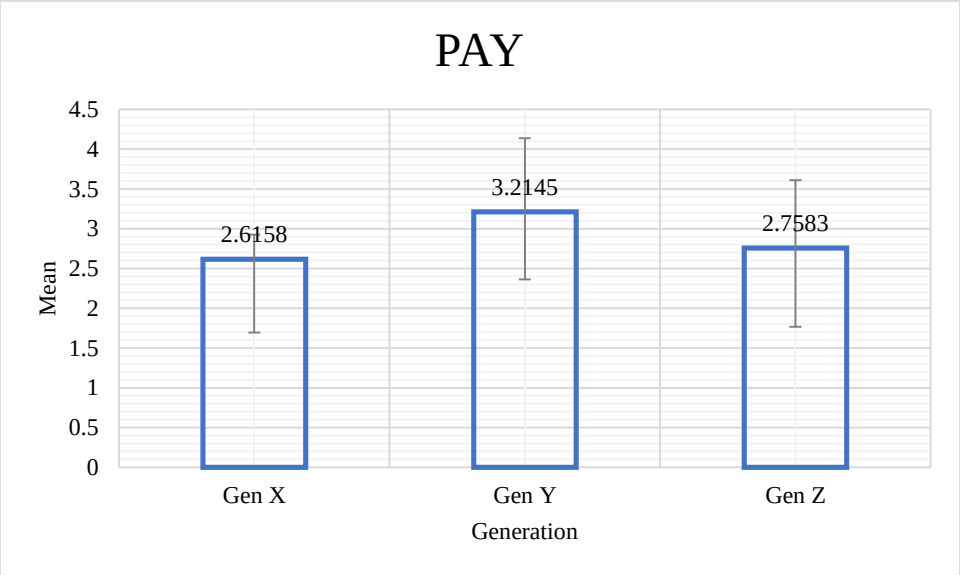

Figure 6 Mean Error plot for Pay

The above plot is the mean error plot of dependent variable ***Pay*** and independent variable groups (GenX, GenY and GenZ). The mean values of GenX, GenY, GenZ are 2.6158, 3.2145, 2.7583 and standard deviations are 0.92211, 0.85111, 0.98995 respectively.

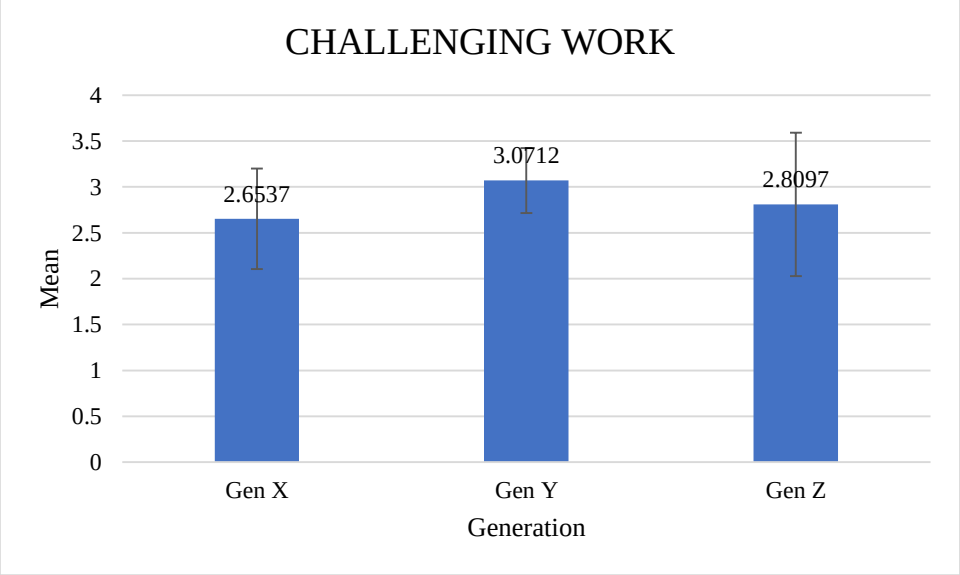

Figure 7 Mean Error plot for Challenging Work

The above plot is the mean error plot of dependent variable ***Challenging work*** and independent variable groups (GenX, GenY and GenZ). The mean values of GenX, GenY, GenZ are 2.6537, 3.0712, 2.8097 and standard deviations are 0.547, 0.354, 0.5603 respectively.

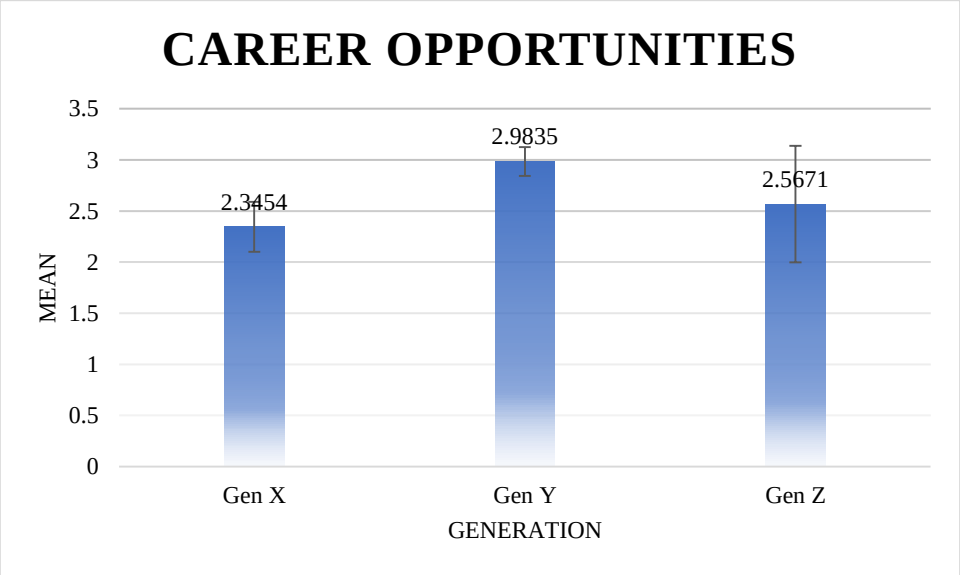

Figure 8 Mean Error plot for Career Opportunities

The above plot is the mean error plot of dependent variable ***Career Opportunities*** and independent variable groups (GenX, GenY and GenZ). The mean values of GenX, GenY, GenZ are 2.3454, 2.9835, 2.5671 and standard deviations are 0.245, 0.142, 0.57respectively.

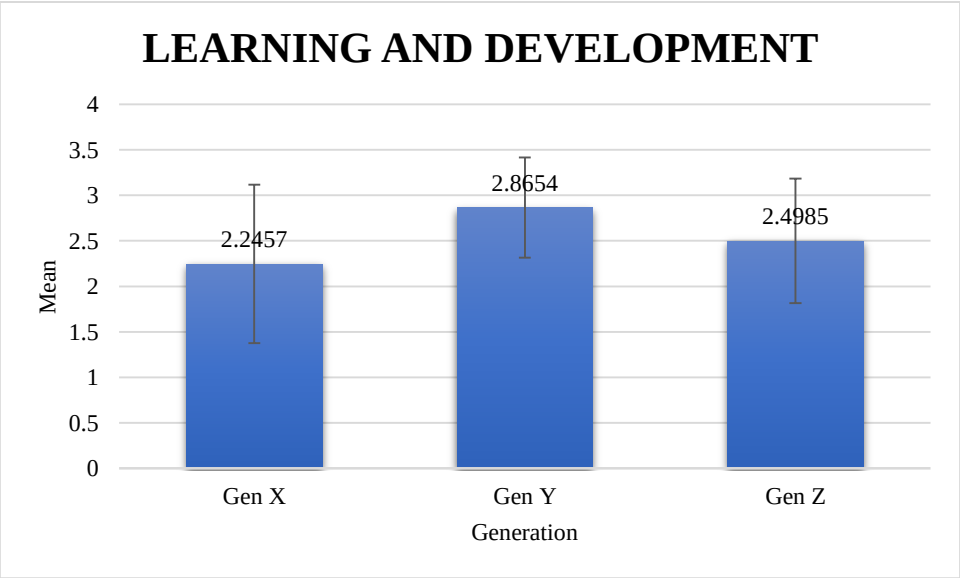

Figure 9 Mean Error plot for Learning and development

The above plot is the mean error plot of dependent variable ***Learning and development*** and independent variable groups (GenX, GenY and GenZ). The mean values of GenX, GenY, GenZ are 2.2457, 2.8654, 2.4985 and standard deviations are 0.871, 0.551, 0.684 respectively.

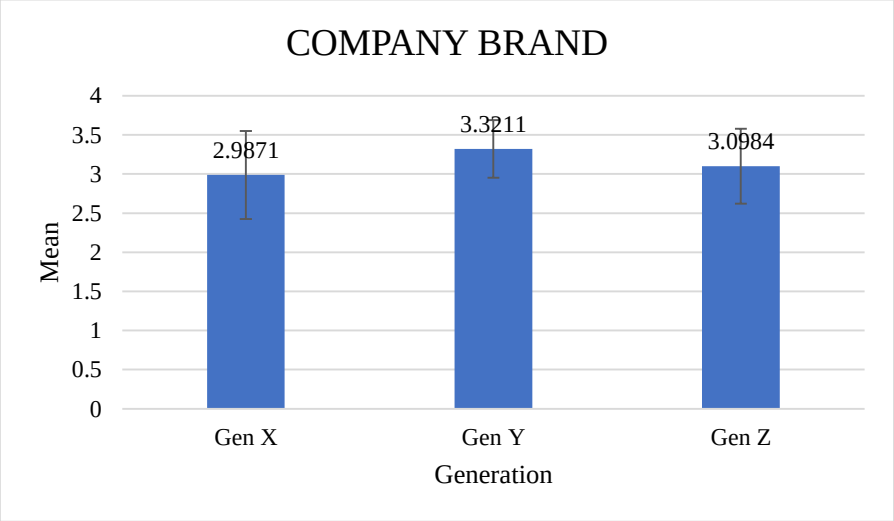

Figure 10 Mean Error plot for Company brand

The above plot is the mean error plot of dependent variable ***Company brand*** and independent variable groups (GenX, GenY and GenZ). The mean values of GenX, GenY, GenZ are 2.9871, 3.3211, 3.0984 and standard deviations are 0.5621, 0.3689, 0.4782 respectively.

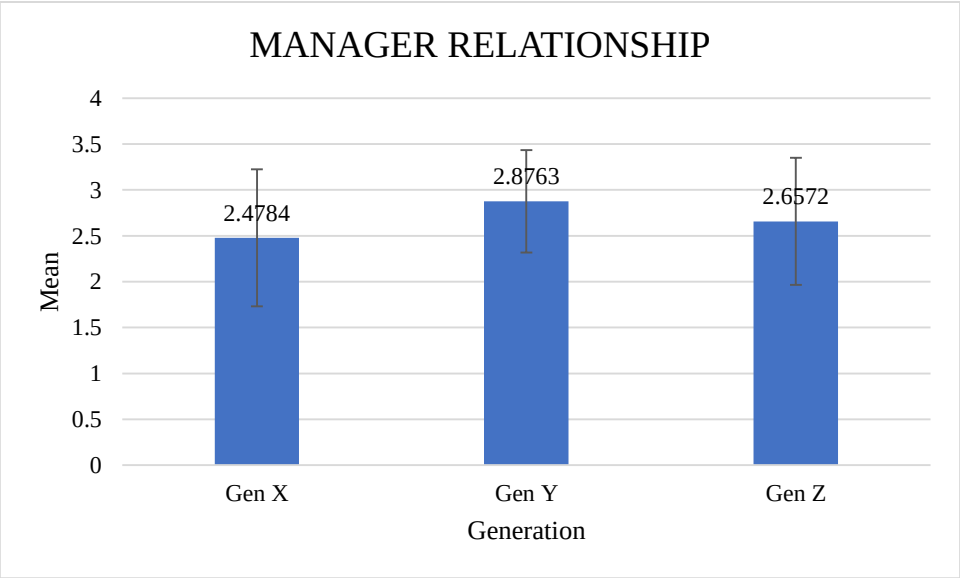

Figure 1 Mean Error plot for Manager relationship

The above plot is the mean error plot of dependent variable ***Manager relationship*** and independent variable groups (GenX, GenY and GenZ). The mean values of GenX, GenY, GenZ are 2.4784, 2.8763, 2.6572 and standard deviations are 0.7451, 0.5567, 0.6921 respectively.

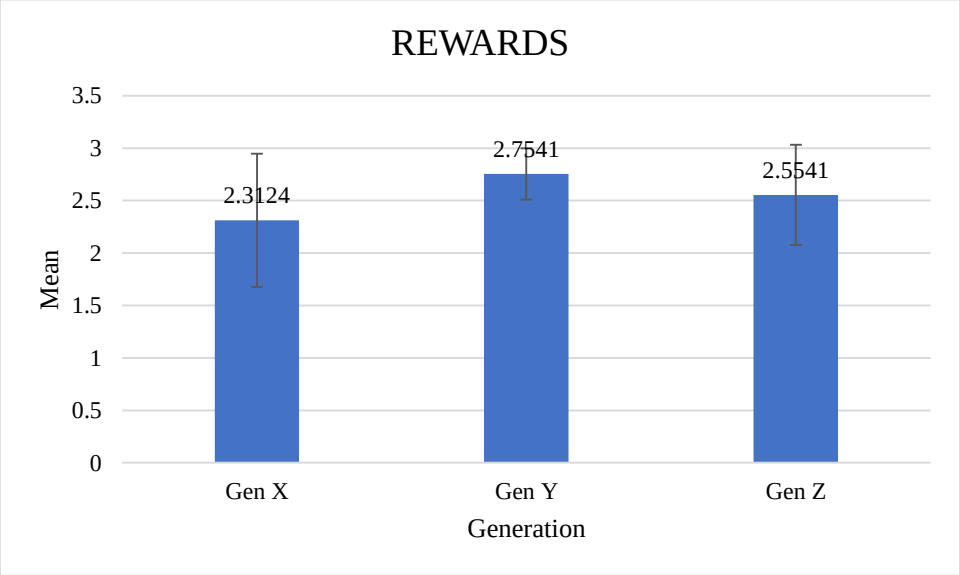

Figure 2 Mean Error plot for Rewards

The above plot is the mean error plot of dependent variable ***Rewards*** and independent variable groups (GenX, GenY and GenZ). The mean values of GenX, GenY, GenZ are 2.3124, 2.7541, 2.5541 and standard deviations are 0.6354, 0.245, 0.4784 respectively.

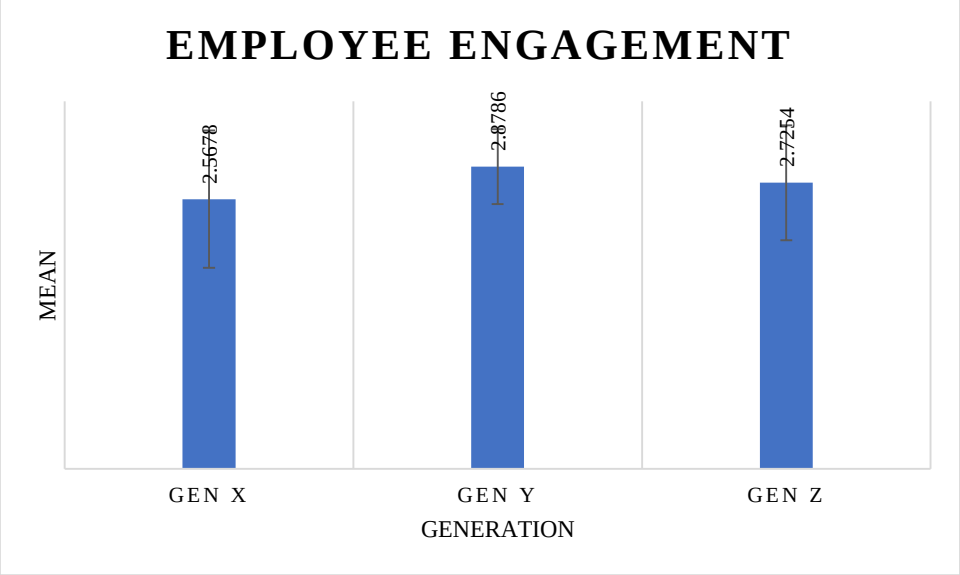

Figure 3 Mean Error plot for Employee Engagement

The above plot is the mean error plot of dependent variable ***Employee Engagement*** and independent variable groups (GenX, GenY and GenZ). The mean values of GenX, GenY, GenZ are 2.5678, 2.8786, 2.7264 and standard deviations are 0.6541, 0.3561, 0.5471 respectively.

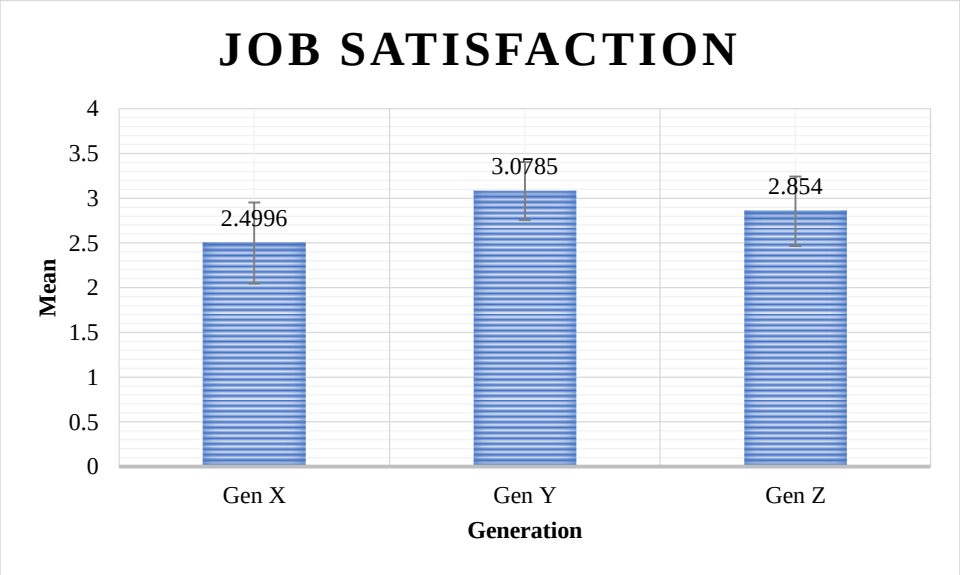

Figure 4 Mean Error plot for Job satisfaction

The above plot is the mean error plot of dependent variable ***Job satisfaction*** and independent variable groups (GenX, GenY and GenZ). The mean values of GenX, GenY, GenZ are 2.4996, 3.0785, 2.854 and standard deviations are 0.4521, 0.3245, 0.3875 respectively.

In Table 3 Box's assumption of covariance matrix equality test is displayed. The variance-covariance matrices are assumed to be identical across the three samples, and their equality is tested using this statistic. So, this statistic shouldn't matter if the matrices are identical (hence satisfying the homogeneity requirement). The resultant p value is 0.000, which is less than.05, indicating that there is a substantial difference between the covariance

matrices and hence the assumption is not met. Pillai's trace should be re silient to this violation, hence we may safely disregard this test because group sizes are equal.

Table 3 Box's Test of Equality of Covariance Matrices[a]

Box's M	**245.684**
F	20.174
df1	12
df2	427474.385
Sig.	.000
Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.	
a. Design: Intercept + Generation	

Table 4 presents the primary results (Multivariate test). The focus of this study is on group effects which determine whether Gen X, Gen Y and Gen Z differ along the these dimensions of **Rewards, Perceived Company Brand, Autonomy, Learning and Development, Well-being, Pay, Career opportunities, Organization culture, Manager Relationship, Work life balance, Challenging Work, Employee Engagement and Job satisfaction**. The column of interest indicates the significance values of the F-ratios. The results reveal a significant test statistic with a p-value of .00 (less than .05). This implies that the groups differ with respect to the aforementioned dimensions of the study, indicating differences in **Employee Engagement and Job satisfaction.**

Table 4 Multivariate Tests[a]

Effect		**Value**	**F**	**Hypothesis df**	**Error df**	**Sig.**	**Partial Eta Squared**
Intercept	Wilks' Lambda	.006	17192.917[b]	3.000	295.000	.000	.994
Generation	Wilks' Lambda	.154	152.020[b]	6.000	590.000	.000	.607
a. Design: Intercept + Generation							
b. Exact statistic							
c. The statistic is an upper bound on F that yields a lower bound on the significance level.							

Table 5 presents the summary of Levene's test conducted to assess the equality of variances for all dependent variables. The outcome of the individual one-way ANOVA test performed on each dependent variable is the same as the results of these tests. The assumption of homogeneity of variance is met when Levene's test is non-significant across all dependent variables. The data from this study has met this assumption as the results indicate non-significance for the dependent variables **Rewards, Perceived Company Brand, Autonomy, Learning and Development, Well-being, Pay, Career opportunities, Organization culture, Manager Relationship, Work life balance, Challenging Work, Employee Engagement and Job satisfaction**.

Table 5 Levene's Test of Equality of Error Variancesa

		Levene Statistic	**df1**	**df2**	**Sig.**
Rewards	Based on Mean	1.973	2	297	.000
	Based on Median	11.315	2	297	.000

	Based on Median and with adjusted df	7.452	2	297	.000
	Based on trimmed mean	7.342	2	275.388	.000
Perceived Company Brand	Based on Mean		2	297	.000
	Based on Median	13.997	2	297	.001
	Based on Median and with adjusted df	12.513	2	297	.001
	Based on trimmed mean	12.513	2	297.28	.000
Autonomy	Based on Mean	1.973	2	297	.001
	Based on Median	11.315	2	297	.001
	Based on Median and with adjusted df	7.452	2	297	.012
	Based on trimmed mean	7.342	2	275.388	.000
Learning and Development	Based on Mean	1.973	2	297	.011
	Based on Median	11.315	2	297	.057
	Based on Median and with adjusted df	7.452	2	297	.017
	Based on trimmed mean	7.342	2	297.28	.039
Well-being	Based on Mean	12.513	2	297	.001
	Based on Median	14.455	2	275.388	.002
	Based on Median and with adjusted df	11.227	2	297	.024
	Based on trimmed mean	7.332	2	297	.029
Pay	Based on Mean	7.332	2	297	.000
	Based on Median	10.453	2	297.28	.002
	Based on Median and with adjusted df	2.313	2	297	.000
	Based on trimmed mean	.785	2	297	.001
Career opportunities	Based on Mean	.785	2	297	.039
	Based on Median	1.983	2	275.080	
	Based on Median and with adjusted df	2.423	2	297	.020
	Based on trimmed mean	2.423	2	297	.000
Organization culture	Based on Mean	.775	2	297	.010
	Based on Median	14.455	2	275.388	.000
	Based on Median and with adjusted df	11.227	2	297	.020
	Based on trimmed mean	7.332	2	297	.001
Manager Relationship	Based on Mean	7.332	2	297	.001
	Based on Median	10.453	2	297.28	.000
	Based on Median and with adjusted df	2.313	2	297	.012
	Based on trimmed mean	.785	2	297	.029
Work life balance	Based on Mean	.785	2	297	.000
	Based on Median	1.983	2	275.388	.002
	Based on Median and with adjusted df	2.423	2	297	.020
	Based on trimmed mean	2.423	2	297	.001
Challenging Work	Based on Mean	.775	2	297	.021

	Based on Median	14.455	2	297.28	.016
	Based on Median and with adjusted df	11.227	2	297	.041
	Based on trimmed mean	7.332	2	297	.029
Employee Engagement and Job satisfaction	Based on Mean	7.332	2	297	.010
	Based on Median	10.453	2	275.388	.002
	Based on Median and with adjusted df	2.313	2	297	.030
	Based on trimmed mean	.785	2	297	.001
Tests the null hypothesis that the error variance of the dependent variable is equal across groups.					
a. Design: Intercept + Generation					

Table 6 displays a summary of the ANOVA outcomes for the dependent variables. The relevant row is labelled "Generation" and has the same values as the "Corrected Model" row because the model fit utilized in the analysis comprises only one independent variable, which is Generation. The row labelled Generation contains an ANOVA summary table for **Rewards, Perceived Company Brand, Autonomy, Learning and Development, Well-being, Pay, Career opportunities, Organization culture, Manager Relationship, Work life balance, Challenging Work, Employee Engagement and Job satisfaction**, respectively. The obtained p-values suggest that there was a significant difference between Generation groups in terms of **Rewards, Perceived Company Brand, Autonomy, Learning and Development, Well-being, Pay, Career opportunities, Organization culture, Manager Relationship, Work life balance, Challenging Work, Employee Engagement and Job satisfaction** (p is less than .05). The multivariate test statistics indicate that there are significant differences between the groups in terms of the **Rewards, Perceived Company Brand, Autonomy, Learning and Development, Well-being, Pay, Career opportunities, Organization culture, Manager Relationship, Work life balance, Challenging Work, Employee Engagement and Job satisfaction** of their employee engagement level.

Table 6 Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	REWARDS	27.862	2	13.931	28.985	0	0.163
	Perceived Company Brand	92.162	2	46.081	436.807	0	0.746
	Autonomy	84.253	2	40.267	49.712	0	0.247
	Learning and Development	92.151	2	45.091	432.807	0	0.846
	Well-being	83.133	2	41.567	48.812	0	0.247
	Pay	27.2962	2	13.419	27.727	0	0.162
	Career opportunities	91.5962	2	45.569	435.549	0	0.745
	Organization culture	83.6872	2	39.755	48.454	0	0.246
	Manager Relationship	91.5852	2	44.579	431.549	0	0.845
	Work life balance	82.5672	2	41.055	47.554	0	0.246
	Challenging Work	26.7304	2	12.907	26.469	0	0.161

	Employee Engagement	91.0304	2	45.057	434.291	0	0.744
	Job satisfaction	83.1214	2	39.243	47.196	0	0.245
Intercept	REWARDS	2607.801	1	2607.801	5425.813	0	0.948
	Perceived Company Brand	2569.195	1	2569.195	24353.815	0	0.988
	Autonomy	2564.334	1	2365.334	2806.782	0	0.916
	Learning and Development	2565.295	1	2549.195	24253.815	0	0.488
	Well-being	2476.334	1	2476.334	2907.989	0	0.907
	Pay	2596.801	1	2592.801	5445.813	0	0.946
	Career opportunities	2558.195	1	2554.195	24373.815	0	0.986
	Organization culture	2553.334	1	2350.334	2826.782	0	0.914
	Manager Relationship	2554.295	1	2534.195	24273.815	0	0.486
	Work life balance	2465.334	1	2461.334	2927.989	0	0.905
	Challenging Work	2585.801	1	2577.801	5465.813	0	0.944
	Employee Engagement	2547.195	1	2539.195	24393.815	0	0.984
	Job satisfaction	2542.334	1	2335.334	2846.782	0	0.912
Generation	REWARDS	27.862	2	13.931	28.985	0	0.163
	Perceived Company Brand	92.162	2	46.081	436.807	0	0.746
	Autonomy	83.243	2	40.467	47.912	0	0.256
	Learning and Development	92.232	2	45.981	436.706	0	0.739
	Well-being	83.133	2	41.567	48.812	0	0.247
	Pay	27.662	2	13.6852	28.485	0	0.162
	Career opportunities	91.962	2	45.8352	436.307	0	0.745
	Organization culture	83.043	2	40.2212	47.412	0	0.255
	Manager Relationship	92.032	2	45.7352	436.206	0	0.738
	Work life balance	82.933	2	41.3212	48.312	0	0.246
	Challenging Work	27.462	2	13.4394	27.985	0	0.161
	Employee Engagement	91.762	2	45.5894	435.807	0	0.744
	Job satisfaction	82.843	2	39.9754	46.912	0	0.254
Error	REWARDS	142.747	297	0.481			
	Perceived Company Brand	31.332	297	0.105			
	Autonomy	252.824	297	0.842			
	Learning and Development	31.242	297	0.104			
	Well-being	252.914	297	0.852			
	Pay	140.547	297	0.401			
	Career opportunities	29.132	297	0.025			
	Organization culture	250.624	297	0.762			
	Manager Relationship	29.042	297	0.024			
	Work life balance	250.714	297	0.772			
	Challenging Work	138.347	297	0.321			
	Employee Engagement	26.932	297	-0.055			
	Job satisfaction	248.424	297	0.682			

Total	REWARDS	2778.41	300				
	Perceived Company Brand	2692.689	300				
	Autonomy	2724.382	300				
	Learning and Development	2682.684	300				
	Well-being	2812.382	300				
	Pay	2778.11	300				
	Career opportunities	2692.389	300				
	Organization culture	2724.082	300				
	Manager Relationship	2682.384	300				
	Work life balance	2812.082	300				
	Challenging Work	2777.81	300				
	Employee Engagement	2692.089	300				
	Job satisfaction	2723.782	300				
Corrected Total	REWARDS	170.609	299				
	Perceived Company Brand	123.494	299				
	Autonomy	335.045	299				
	Learning and Development	122.594	299				
	Well-being	336.047	299				
	Pay	170.509	299				
	Career opportunities	123.394	299				
	Organization culture	334.945	299				
	Manager Relationship	122.494	299				
	Work life balance	335.947	299				
	Challenging Work	170.409	299				
	Employee Engagement	123.294	299				
	Job satisfaction	334.845	299				
	a. R Squared = .163 (Adjusted R Squared = .158)						
	b. R Squared = .746 (Adjusted R Squared = .745)						
	c. R Squared = .247 (Adjusted R Squared = .242)						

Table 7 Descriptive

Demographic		**Frequency**	**Percent**	**Mean**	**St.d**
Gender	Male	124	49.6	1.504	0.50099
	Female	126	50.4		
	Total	250	100.0		
Age Group	11 to 26	77	30.8	1.9520	0.75364
	27 to 42	108	43.2		
	43 to 58	65	26.0		
	Total	250	100.0		
Education	Intermediate	66	26.4	2.48	1.13435
	polytechnic	61	24.4		

	graduate	60	24.0		
	post graduate	63	25.2		
	Total	250	100.0		

The above table shows the demographic variable statistics. In this study 250 respondents are participated, in that 124 are male respondents, and 126 are female respondents. Their age groups vary from 11 to 26, 27 to 42 and 43 to 58. Out of 250 respondents, 77 are 11 to 26 age group respondents, 108 are 27 to 42, and 65 are 43 to 58 age group respondents. Their education qualification is also considered in the study, 66 respondents are Intermediate background, 61 from polytechnic, 60 are graduates, and 63 are post graduates.

Table 8 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.529[a]	.652	.648	.58877

a. Predictors: (Constant), Rewards, Perceived_Company_Brand, Autonomy, Learning_and_Development, Well_being, Pay, Career_opportunities, Organisation_culture, Manager_Relationship, Work_life_balance, Challenging_Work

The above table illustrates that a significant positive relationship between the variables can be described by the intensity and direction of the Pearson correlation coefficient, denoted as R, which represents a linear relationship between a dependent variable and an independent one. The R-value in the table is 0.529, indicating a significant positive relationship between the variables.

R2 is a number that shows how well a model fits the data. It tells us how much of the variation in the dependent variable (what we want to predict) can be explained by the independent variable (what we use to make the prediction). The closer the R2 value is to 1, the better the model fits the data. The independent variables (Rewards, Perceived_Company_Brand, Autonomy, Learning_and_Development, Well-Being, Pay, Career Opportunities, Organisational Culture, Manager-Employee Relationship, Work-Life Balance, and Challenging Work) explain 65.2% of the variation in Employee Engagement. The model has a decent fit since the error term accounts for 34.8% of the data. The adjusted R^2 value is 0.648% shows about 64.8% changes in Employee Engagement, and is explained by independent variables (Rewards, Perceived_Company_Brand, Autonomy, Learning_and_Development, Well_being, Pay, Career_opportunities, Organisation_culture, Manager_Relationship, Work_life_balance, Challenging_Work). The model fits the data well, as seen by the modified R2 value.

Table 9 ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.549	11	.414	1.193	.023[b]
	Residual	82.504	238	.347		
	Total	87.053	249			

a. Dependent Variable: Employee_Engagement

b. Predictors: (Constant), Rewards, Perceived_Company_Brand, Autonomy, Learning_and_Development, Well_being, Pay, Career_opportunities, Organisation_culture, Manager_Relationship, Work_life_balance, Challenging_Work

The F-statistic of 1.051 and the significance level of 0.023, both of which are less than 0.05, from the ANOVA test indicate that the overall regression model is statistically significant for the data.

Table 10 Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.417	.551		4.386	.000
	Autonomy	.158	.050	.174	2.157	.048
	Work_life_balance	-.098	.054	-.117	-2.818	.030
	Organisation_culture	.207	.054	.208	2.130	.027
	Well_being	.159	.051	.174	2.152	.021
	Pay	.133	.056	.156	2.387	.018
	Career_opportunities	.014	.053	.017	2.260	.043
	Challenging_Work	-.017	.059	-.018	-3.283	.012
	Learning_and_Development	.058	.055	.068	2.064	.026
	Perceived_Company_Brand	.019	.053	.023	2.361	.018
	Manager_Relationship	.033	.052	.040	2.626	.032
	Rewards	.023	.053	.027	2.424	.022

a. Dependent Variable: Employee_Engagement

A unit increase in Autonomy was shown to boost Employee Engagement by 0.158 on average, as measured by the Autonomy coefficient value of 0.158.

The correlation between autonomy and employee engagement is significant (t = 2.157, P = 0.048). Using a significance level of 5%, we discover that the t-value is more than 2, suggesting that autonomy is associated with increased levels of employee engagement.

Finding a coefficient value of -0.098 for work-life balance suggests that a reduction of 1 unit in work-life balance is associated with a fall of -0.098 units in employee engagement.

A t-value of -2.818 and a P-value of 0.030 are obtained when examining the relationship between work-life balance and employee engagement. Since the t-value we received was less than 2 and the P-value we obtained was less than 0.05 at the 5% level of significance, we may conclude that work-life balance has a negative effect on employee engagement.

The calculated value of 0.207 for the coefficient of organisation culture indicates that a rise of one unit in organisation culture is associated with a rise of 0.207 units in employee engagement.

A t-value of 2.130 and a P-value of 0.027 indicate that there is a connection between an organization's culture and worker participation. Given that the resulting t-value is more than 2 and the P-value is less than 0.05 at the 5% level of significance, we may deduce that the Organisation culture positively affects Employee Engagement.

We calculated a coefficient for well-being and found that for every one point rise in well-being, employee engagement rose by 0.159 points on average.

Well-being and employee engagement are linked; the t-value for this relationship is 2.162, and the associated P-value is 0.021. At the 95% confidence level, the relationship between well-being and employee engagement is positive (t-value > 2, P.05).

A coefficient of 0.133 for pay suggests that for every one unit increase in salary, there is an average 0.133 unit increase in employee engagement.

The t-value for the correlation between pay and staff enthusiasm is 2.387, and the corresponding P-value is 0.018. Pay positively affects employee engagement, as shown by a t-value larger than 2 and a P-value less than 0.05 at the 5% level of significance.

Finding a coefficient for Career opportunities of 0.014 indicates that an increase of 1 unit in Career opportunities leads to a 0.014 unit rise in Employee Engagement.

The t-value for the correlation between career prospects and employee engagement is 2.260, and the corresponding P-value is 0.043. Results show that career advancement chances positively affect employee engagement (t-value > 2, P-value 0.05, 5% threshold of significance).

Specifically, the -0.017 value for the Challenging work coefficient indicates that for every unit drop in Challenging work, Employee Engagement decreases by -0.017 units on average.

The correlation between challenging jobs and employee engagement is statistically significant, with a t-value of -3.283% and a P-value of 0.012. Using a 5% threshold of significance, we find that the t-value is less than 2, leading us to conclude that challenging work negatively impacts employee engagement.

Finding a Learning and development coefficient value of 0.058 indicates that on average, an increase of 1 unit in Learning and development leads to a 0.058 unit rise in Employee Engagement.

The t-value for the correlation between L&D and employee engagement is 2.260, and the corresponding P-value is 0.026. Using a 5% threshold of significance, we find that the t-value obtained is more than 2, therefore we can infer that L&D has a beneficial impact on employee engagement.

The calculated coefficient value of 0.019 for Perceived company brand indicates that an increase of one unit in Perceived company brand leads to a 0.019 unit rise in Employee Engagement on average.

The t-value for the correlation between employees' opinions of the company's brand and their degree of dedication to their jobs is 2.361 at the 0.018 level of significance. When workers have a positive view of the company, they are more invested in its success (t-value > 2, P-value 0.05, 5% level of significance).

Based on the average value of the Manager Relation coefficient (0.033), we can infer that an increase of one unit in Perceived corporate brand leads to an increase of 0.033 units in Employee Engagement.

T(Perceived Company Brand) = 2.262, and the corresponding P-value is 0.032, indicating a significant positive correlation between these two variables. Using a 5% threshold of significance, we find that the t-value obtained is more than 2, leading us to the conclusion that the Manager connection positively affects Employee Engagement.

A unit increase in Rewards was shown to enhance Employee Engagement by 0.023 units on average, as indicated by the Rewards coefficient value of 0.023.
Pay and morale are correlated with a t-value of 2.424 and a P-value of 0.022. At the 5% level of significance (t-value more than 2 and P-value less than 0.05), the effects of incentives on employee engagement were shown to be positive.

Table 11 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.612[a]	.510	.508	.77304

a. Predictors: (Constant), Employee_Engagement

Pearson's coefficient of correlation, represented as R, characterizes the strength and direction of a linear relationship between a dependent and an independent variable. In the table above, the R-value of 0.612 indicates a significant positive correlation between the variables.

R2 is a statistic used by statisticians to express the proportion of the total variation in the dependent variable that can be assigned to the independent variable, and so serves as a measure of the model's ability to explain the data. The result of R2 is 0.510, indicating that Employee Engagement accounts for 51.0% of the variation in Job Satisfaction. There is a decent match between the data and the model since the error term accounts for 49.0% of the variance. An R2 of 0.508 indicates that 50.8% of the variation in Job Satisfaction can be attributed to variations in the independent variable, Employee Engagement. The adjusted R2 shows that the model is a good match for the data.

Table 1 ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.022	1	.022	2.037	.047[b]
	Residual	148.204	248	.598		
	Total	148.226	249			

a. Dependent Variable: Job_satisfaction
b. Predictors: (Constant), Employee_Engagement

Since the F-statistic for this test is 2.037 and the significance level is 0.047 (less than 0.05), we may conclude that the data-based regression model as a whole is statistically significant.

Table 13 Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.846	.255		11.159	.000
	Employee_Engagement	.016	.083	.012	3.193	.047

a. Dependent Variable: Job_satisfaction

Job satisfaction was shown to rise by 0.016 units for every 1 point increase in Employee Engagement, as measured by the coefficient value. For the correlation between Job Satisfaction and Employee Engagement, we get a t-value of 3.193 at a significance level of 0.047. Using a 5% threshold of significance, we find that the t-value obtained is more than 2, leading us to the conclusion that Employee Engagement positively affects Job satisfaction.

Conclusion

The analysis is performed in two stages utilising multi regression and repeated measures analysis of variance. The MANOVA is performed by considering the Generation (GenX, GenY and GenZ) as the independent categorical variable and all the remaining variables as the dependent variables in order to evaluate the relation among the Generation groups and variables. Results indicate that all dependent variables had an effect on Gen Z workers' perceptions of their rewards, autonomy, learning and development opportunities, well-being, pay, career prospects, manager relationships, work-life balance, challenging work, employee engagement, and job satisfaction. The regression is carried out to know the effect of employee Rewards, Perceived Company Brand, Autonomy, Learning and Development, Well-being, Pay, Career opportunities, Organization culture, Manager Relationship, Work life balance, Challenging Work of an employee on Employee Engagement. In the next section, the link between employee engagement and happiness on the job will be examined. There are a total of 250 participants in this survey. Their responses are analyzed by using SPSS, to know the effect Multi regression and liner regression is carried-out. The analysis results showed that Rewards, Perceived Company Brand, Autonomy, Learning and Development, Well-being, Pay, Career opportunities, Organization culture, Manager Relationship have positive effect on Employee Engagement and Work life balance, challenging work of employee shows negative effect on Employee Engagement. Employee engagement was found to have a favourable effect on job satisfaction using a linear regression model.

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