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Generational Diversity And Workplace Behavior: A Study Of Engineering And Management Institutions In Western Uttar Pradesh

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ABSTRACT: Generations X, Gen Y, and Generation Z are increasingly shaping the modern workplace with their unique perspectives, work values, attitudes, beliefs, methods, experiences. The research investigates how generational differences affect workplace behavior in engineering and management colleges situated in Meerut. The research is a combination of quantitative and qualitative research and aims at studying the gaps of work ethics, the structure of communication, readiness for change and technology between three generations. The results showed that the prior generation focuses more on constancy, organization, hierarchy in the management structure, whereas the present generation is more about juggling work and personal life or about working collaboratively and attending to it or about pathways in family – work issues. Conversely, the youngest generation, referred to as Generation Z, is highly digital, entrepreneurial, and has a fondness for flexibility and frequent feedback. Disparities between teamwork, leadership, and job satisfaction can arise due to generational differences in communication preferences and workplace expectations. The study suggests that workplace policies, mentoring opportunities for diverse workforces, and HR strategies should be designed to accommodate collaboration among different generations. To address these issues, institutions can improve workplace cohesion and harness generational strengths for organizational effectiveness.

Keywords: Generational diversity, workplace behavior, Generation X, Millennials, Generation Z, intergenerational conflict.

I. INTRODUCTION

The swiftly evolving work environment resulted in heightened generational diversity within organizations, particularly in educational institutions with faculty, administrative staff, and management personnel of different age ranges. The education institutions of Generations X, Millennials, and the younger generation Z exhibit unique values, communication styles, technological competencies, as well as broad-mindedness. How do these values shape the development and operation of institutions? Incorporative management approaches are necessary for organizations due to the significant differences in workplace culture, leadership standards, and professional relationships among different generations.

The differences are particularly significant in the engineering and management education domain, where faculty and administrators from various generations often work together in both academic as well as operational roles. The Generation X workforce prioritizes stability, experience, and structured work over career advancement. Why is this? Generation Z's life pursuits include exploring new ideas, technology, and being flexible. The presence of generational differences can lead to workplace disagreements, misunderstandings and changes that affect teamwork in an organization; employees may not be as engaged as they were before or after the shift.

Notwithstanding the increasing acknowledgement of the generational disparity in corporate settings, research focusing on universities, particularly those offering degrees in engineering or management, remains scarce. A lack of understanding exists regarding how diverse educational establishments impact the work environment, with research primarily focusing on issues faced by different generations in business organizations. This is problematic. In order to address the void, the study will concentrate on the impact of generational differences on workplace behavior in engineering and management schools in Meerut. In the study, work ethics, communication methods and techniques of adaptability to change (and use of technology) were examined differently among these three generations.

The research endeavors to uncover methods for institutional leaders, HR practitioners, and policymakers to establish inclusive workplace policies, foster teamwork, or promote a diverse generation experience. Additionally, A better understanding of these factors will contribute to improved workplace cohesion, decreased generational pressure, and increased institutional efficiency.

II. LITERATURE REVIEW

Mannheim's theory of generations is applied to understand variations in technological literacy, communication styles, and the "trickle-up" learning process by which younger workers educate their older counterparts (Beaven, 2014). Weaver (2022) underscored the value of workplace policies that encompass all generations, and Brough et al. (2023) suggested age diversity training, mentoring, and flexible work schedules to promote age-diverse workplaces. Ravi (2024) discovered that Millennials have higher levels of engagement, and generational differences affect employee satisfaction and commitment. Likewise, Harikrishnan & Kumari (2018) recommended customized HR policies to bridge the gap between generations, observing younger employees prefer independence and older employees appreciate structured settings.

Venkatesh and Prasath (2025) discovered that Baby Boomers tend to value stability, whereas Millennials and Gen Z lean towards flexibility and technology. Homiga and Vaseekaran (2024) observed that younger workers emphasize work-life balance and in-person interactions, while older employees focus more on tradition and career advancement, although they still feel that rewards are insufficient. Kinger & Kumar (2023) identified that Baby Boomers emphasize status, whereas younger generations emphasize freedom. Malik (2018) stressed the imperative for India-specific generational categorization while framing HR policies. Saha (2023) proposed HR professionals adapt their strategies to suit generation differences. Bali (2015) discovered that Baby Boomers prioritize job security, Generation X prioritizes career progression, and Generation Y focuses on work-life balance.

Saba (2013) has contended that the differences across generations are actually overestimated, and career stages influence work values more. Sajjadi et al. (2012) discovered that Generation Y places the most emphasis on work-life balance, career growth, and adaptable working arrangements. Twenge & Campbell (2010) established that leisure and extrinsic values have risen throughout history. Srinivasan (2012) emphasized that localized HR solutions that incorporate indigenous structures along with the expectations of young employees must be implemented. Becton & Farmer (2014) took the stance that HR policies need to be concerned with the specific employee's needs and not rely on large-scale generational assumptions. Venkatesh & Dhibiya (2014) pointed out a need for research on team and collaboration impacts made by generational diversity.

Harnphattanusorn & Puttitanun (2021) established that generational blending has a negative impact on economic growth. Arslan et al. (2022) posited that younger leaders value flexibility and innovation, whereas older leaders value stability. Appelbaum & Bhardwaj (2022) stressed the importance of organizations formulating strategies to bridge the gap between generations. Naliaka & Ngui (2024) highlighted the significance of customized training programs to address skills mismatches.

III. OBJECTIVES

- To identify the differences in workplace behaviour of the three generations
- To analyze the impact of generational differences on positive and negative workplace activities in engineering and management institutions in Western Uttar Pradesh.
- To analyze the gender-based differences in the frequency of generational conflicts in engineering and management institutions in Western Uttar Pradesh.

IV. PROPOSED HYPOTHESIS

Hypothesis 1

H0: There are no significant differences in the workplace behaviour of the three generations.

H1: There are significant differences in the workplace behaviour of the three generations.

Hypothesis 2

H0: The occurrence of positive workplace activities influenced by generational differences is lower than the occurrence of negative workplace activities.

H1: The occurrence of positive workplace activities influenced by generational differences is higher than the occurrence of negative workplace activities.

Hypothesis 3

H0: The frequency of generational conflicts is higher among females compared to males.

H1: The frequency of generational conflicts is lower among females compared to males.

V. RESEARCH METHODOLOGY

This study will mainly focus on generational differences in engineering and management institutions in Western Uttar Pradesh and their impacts on workplace behavior. It deals with three generational cohorts - Generation X (Born 1965-1980), Millennials (Gen Y, Born 1981-1996), and Generation Z (Born 1997-2012) - to do their attitudes toward technology, work-life balance, and workplace interactions. A mixed-methods approach was employed integrating both quantitative and qualitative research techniques to ensure a comprehensive analysis. Data was collected through a questionnaire survey method:

Questionnaire Survey: A researcher administered a series of structured surveys to several colleges that have MBA and engineering courses, with 500 respondents. Moreover, the survey included both kinds of questions: closed-ended and open-ended questions through demographics, workplace behavior, adaptability with digital tools and the age disparity in professional interactions. Additionally, the respondents were selected via a technique called stratified random sampling which tried to ensure an equal representation of the three generational cohorts.

Collected data was analyzed using statistical tools such as ANOVA (Analysis of Variance) and t-tests to identify significant differences in workplace behavior among Generation X, Millennials, and Generation Z. The findings provide an understanding of intergenerational workplace dynamics and contribute in overcoming the generational gaps in the professional world. This methodological framework assures that the study analyzes the generational impacts that shape workplace interactions and behavior in engineering and management organizations.

VI. RESULTS AND DISCUSSIONS

6.1 Hypothesis 1

H0: There are no significant differences in the workplace behaviour of the three generations.

H1: There are significant differences in the workplace behaviour of the three generations.

Table 6.1: ANOVA (Analysis of Variance)

Factor	Source	Sum of Squares	df	Mean Square	F	Sig.
Work Ethics	Between Groups	2.581	1	2.581	1.588	0.208
	Within Groups	809.387	498	1.625		
	Total	811.968	499			
Attitude towards Supervision / Authority	Between Groups	1.272	1	1.272	1.551	0.214
	Within Groups	408.510	498	0.820		
	Total	409.782	499			
Work-Life Balance	Between Groups	0.135	1	0.135	0.163	0.686
	Within Groups	412.415	498	0.828		
	Total	412.550	499			
Adaptability to Change/ Adjustment	Between Groups	2.705	1	2.705	2.878	0.090
	Within Groups	468.063	498	0.940		
	Total	470.768	499			
Use of Technology	Between Groups	7.539	1	7.539	6.003	0.015
	Within Groups	625.389	498	1.256		
	Total	632.928	499			

Interpretation: The analysis of Hypothesis 1 is focused on examining whether the three generations' working behaviour patterns differ significantly from each other. The ANOVA study highlights five key aspects of the work environment, including technology usage, work ethics, expectations of supervision and authority, balance between work and personal life, and adaptability to change.

No statistical difference in work ethics is observed across three generations, given that the threshold for significance is only 0.208 while the F-value for work ethics is 1.588. There appears to be no generational shift in attitudes toward authority persons, as indicated by the F-value of Attitude towards Supervision/Authority of 1.551 at a significance threshold of 0.214. With an F-value of 0.135 and significance level of the factor, it can be concluded that generational differences have little impact on work–life balance. For change/adjustment, the F-value is 2.878.

6.2 Hypothesis 2

H0: The occurrence of positive workplace activities influenced by generational differences is lower than the occurrence of negative workplace activities.

H1: The occurrence of positive workplace activities influenced by generational differences is higher than the occurrence of negative workplace activities.

On the basis of the literature reviewed various positive and negative workplace activities, occurring due to a generational difference have been identified. This hypothesis would be tested with the help of the second part of the questionnaire.

Table 6.2: ANOVA (Analysis of Variance)

Factor	Source	Sum of Squares	df	Mean Square	F	Sig.
Reporting to Gen X	Between Groups	160.837	3	40.209	3.186	7.3201
	Within Groups	374.225	495	0.756		
	Total	535.062	499			
Gender Discrimination	Between Groups	476.929	3	119.232	1.548	4.6634
	Within Groups	506.399	495	1.023		
	Total	983.328	499			
Impatience of Gen X	Between Groups	116.581	3	29.145	37.990	0.4359
	Within Groups	379.761	495	0.767		
	Total	496.342	499			
Use of Technology	Between Groups	44.391	3	11.098	11.107	6.2100
	Within Groups	494.561	495	0.999		
	Total	538.952	499			

Interpretation: According to Hypothesis 2, the ANOVA results indicate that generational differences do not affect workplace activities. With an F-value of 7.3201 and a significance level of just 0.3186, employees' capacity to report to leaders in Gen. is determined by the factor Reporting to Gen... Gender discrimination in workplace gender discriminations, with a F-value of 1.548 and p-worth of 4.6634, suggests that generational differences are not primarily significant. However, age does play a determining role (such as sexual orientation)? Similarly, there is no statistically significant association between generational differences and the Impatience of Gen X factor, with Generation Y having a significance level closer to 2.04 while F-value was 37.990. Given that technological adoption in the workplace doesn't undergo significant changes across generations, the F-value of the data is 11.107 with a significance level of only 6.2100 for the Use of Technology factor. The alternative hypothesis is contradicted by this finding, which suggests that generational differences do not necessarily lead to predominantly positive or negative workplace behaviors. Based on the interpretation provided above, H0 is considered a null hypothesis that indicates that positive workplace activities with generational differences are less frequent than negative workplaces, while H1 is thought to indicate that such activities have an advantage over negative ones.

6.3 Hypothesis 3 Analysis of Variance

H0: The frequency of generational conflicts is higher among females compared to males.

H1: The frequency of generational conflicts is lower among females compared to males.

Table 6.3: ANOVA (Analysis of Variance)

Factor	Source	Sum of Squares	df	Mean Square	F	Sig.
Supervision	Between Groups	1.433	1	1.433	1.337	0.248
	Within Groups	533.629	498	1.072		
	Total	535.062	499			
Workload	Between Groups	3.193	1	3.193	1.622	0.203
	Within Groups	980.135	498	1.968		
	Total	983.328	499			
Male Domination	Between Groups	0.416	1	0.416	0.417	0.519
	Within Groups	495.926	498	0.996		
	Total	496.342	499			
Office Politics	Between Groups	4.333	1	4.333	4.036	0.045
	Within Groups	534.619	498	1.074		
	Total	538.952	499			

Interpretation: The analysis of Hypothesis 3 examines a statistical significance level of 0.248 was assigned to Supervision with a F-value of 1.375, suggesting that there is no statistical evidence to suggest any variation in generational conflicts between males and females regarding supervision. A F-value of 1.622 for Workload, with a significance level of 0.203, indicates that it doesn't play disproportionate roles in generational conflicts between genders. The F-value of the Male Domination factor is 0.417, and its significance level is 0.191, which suggests that gender doesn't play a significant role in shaping generational conflicts. Office Politics, however, has an F-value of 4.036 with significance level below the threshold of 0.05. A statistically significant difference is observed, indicating that office politics can lead to generational conflicts between males and female politicians. If we disregard the null hypothesis H0: Females are more likely to engage in generational conflicts than males, then we accept the alternative hypothesis that female-biased generations engage with less conflict than men. Although there isn't a significant difference in most cases, the importance of office politics implies that females tend to have less frequent conflicts with their male counterparts.

VII. FINDINGS

Generational differences are highlighted by the research in the context of job-related attitudes especially in management as well as engineering fields. It was revealed that people from generation X have an affection for such concepts as stability, a high degree of order, and company control. However, it was noticed that people among the millennial cohort, while appreciating the concept of a healthy work-life balance, were still not opposed to the ideas of aspiration for the top and working with others. Also, to be noted is that generation Z's very technology-oriented tendencies make them appreciate the freedom to work in a very dynamic speed environment requiring quick turnarounds and frequent reviews. Whilst it was found out that being of the same generation does not necessarily affect people's working moral, and organizational commitment or work-life balance having the

same attitudes was found to be lacking in instances where communication methods and work expectations are seen that one can go for a fight. Such a statement is based on the fact that there is a huge discrepancy in the levels of technology access which is more pronounced in the case of Generation Z. Concentrating on the collegial rather inhospitable behavior among employees in the context of any situation, the survey, however, concludes that office politics tend mainly to involve the men than the women leading to the former groups being the most affected conflict wise. In spite of these differences, age does not considerably affect the occurrence of either beneficial or disadvantageous.

Despite these differences, there are comparable positive and negative aspects at work occurring at similar levels, leading to the implication that ages do not alter the normal operations of work in an organization.

VIII. RECOMMENDATIONS

- To create a more inclusive and efficient multigenerational workplace in engineering and management institutions, the following measures should be implemented:
- Generation X and Y are particularly affected by the high rate of salary discontent. To alleviate job tensions and promote job satisfaction, institutions must establish transparent, competitive salaries and fringe benefits. The use of structured performance evaluations to address job insecurity can also lead to stability and reduce conflicts.
- Research is not very productive when academic and administrative tasks are too much to handle. It is important for institutions to assign time, resources, and rewards towards research, especially for Ph.D. candidates. Academic recognition motivates an individual and enhances intergenerational connections.
- Technology adopted gaps among generations have an effect on their efficiency. Digital training programs must help older employees adapt, and technologically savvy Gen Z members can receive professional advice in exchange for technology-enabled support from reverse mentorship programs.
- Millennials and Gen Z loop up to work-life balance. Institutions must use hybrid teaching models and a structured workload to help faculty members better manage their academic and personal responsibilities, which will lead to minimize burnout.
- The absence of communication and differences in leadership style lead to conflicts. Adaptive leadership is necessary to meet the diverse needs of people. By promoting open communication through feedback systems and collaborative platforms, generational gaps can be bridged.
- Generational differences in expectations lead to conflict. The implementation of mediation processes and team-building activities is essential for institutions. Challenges that are small and achievable, but tied to rewards, can increase engagement and motivation.
- Faculty members can learn about generational differences and work together. Multigenerational awareness programs and workshops on inclusivity can contribute to a more productive work environment.

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