



INTERGENERATIONAL WORKPLACE DYNAMICS AND ORGANISATIONAL PERFORMANCE: THE ROLE OF REVERSE MENTORING IN NIGERIAN NATIONAL PETROLEUM COMPANY LIMITED

Okusiriki Enebimere Felicia^{1,*}, Eucharia Chibuzo Ume¹, Olufemi Babatunde Epebinu¹

¹National Open University of Nigeria

***Corresponding author:** creemconsults@gmail.com; 08065225430; ORCID: 0009-0000-2146-3125

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ABSTRACT

The effect of intergenerational workplace relationship on organizational performance was the focus of this study, with the effect of intergenerational workplace relationship on organizational performance explored through the two organic aspects (Management of communication style differences and technological adaptation) as well as the role of reverse mentoring on operational efficiency of employees of Nigerian National Petroleum Company Limited (NNPC Limited), Abuja, Nigeria. The design of the study was cross sectional. All 2,813 employees were sampled and 350 employees were selected as representative sample by Taro Yamane's sampling method. 231 questionnaires were analysed and usable. A standardised instrument and validated measurement scales were used to collect information: Multi Factor Leadership Questionnaire (MLQ-5X; Bass & Avolio, 2004), Psychologic Safety (Edmondson, 1999) and Resistance to Change (Oreg, 2003), all of which were measured on a 5-point Likert scale. Analytical techniques were confirmatory factor analysis, multiple linear regression and mediation analysis with bootstrapping. The results showed that transformational leadership was negatively correlated with organisational change resistance among employees of the organisations, and positively correlated with employees' psychological safety. In the integrated model, both transformational leadership and psychological safety were argued to be important to employee resistance to organisational change. Psychological safety was partially mediated in the relationship between transformational leadership and employee resistance to organisational change. The direct path was significant both with and without the mediator, suggesting that transformational leadership has a direct effect as well as an indirect effect on employee resistance via mediator. The results suggest that transformational leadership tends to be inversely related to resistance to organisational change, directly, as well as indirectly, via the mediation of employees' psychological safety. Local government leaders need to invest in leadership development initiatives that create an idealized influence, inspirational motivation, intellectual stimulation and institutionalize

policies to safeguard interpersonal risk taking and promote constructive voice throughout the process of enacting reform.

1. Introduction

The current workplace is a multi-generational environment as each generation has been influenced by common sociohistorical experiences, which relate to workplace attitudes and behaviours (Becton et al., 2014; Costanza & Finkelstein, 2015; Mannheim, 1952; Romero-Carazas et al., 2024). There is a diverse body of research that indicates that by managing diversity appropriately, problem-solving, creativity, flexibility and competitive advantage can be improved (Diversity Management Theory; Cox, 1993; Cox & Blake, 1991; Rudolph et al., 2021; Bell et al., 2011), while there is mixed evidence on generational diversity and organisational performance (Rudolph et al., 2021; Bell et al., 2011). Research suggests that generational differences can create complementary strengths and weaknesses, depending on how well leadership is inclusive, the organisation's processes and culture, and the interdependence of the tasks (Romero & Romero-Carazas, 2024; Wang & Duan, 2025). The evidence from the developing economies is also mixed and age diversity has been found to positively impact job performance in developing economies that implement inclusive HRM practices, such as Kenya (Cletus et al., 2023; Anjiri, 2018), while workforce diversity in Ethiopia failed to show any direct impact on job performance.

One of the drawbacks in the literature is that there is a tendency to mix three constructs together: Demographic, Emergent Intergenerational Behaviour and Intentional Management Action (Costanza & Finkelstein, 2015; Rudolph et al., 2021). This is especially true when reverse mentoring is viewed as a component of generational diversity, rather than an intentional organisational practice that can operate on its own without the context of generational diversity (Bertram et al., 2023; Wang, 2024; Li et al., 2025). This conceptual overlap also blurs the boundaries between the problem and its managerial solution and restricts our comprehension of the generation-based performance results (Wang, 2024; O'Connor et al., 2025). The study thus uses a differentiated approach to a process model, with the organic intergenerational processes in the workplace and intentional efforts to manage them. In particular, management of communication style differences, technological adaptation is analysed as organic dimensions, the reverse mentoring as a conscious organisational intervention and the three are evaluated in terms of operational efficiency.

The Nigerian petroleum sector offers a good backdrop in which to consider these relationships. In a commercial overhaul following the enactment of the Petroleum Industry Act (PIA) 2021, the Nigerian National Petroleum Company (NNPC) Limited in 2024 recorded a profit after tax of ₦5.4 trillion and increased revenue to ₦60.5 trillion in 2025 (NNPC Limited, 2025; Arise TV, 2026). The developments highlight the need for strong human capital management in an aging workforce, which is digital and tech-savvy, especially in the context of fast technological advancement and AI-powered automation (Society of Petroleum Engineers, 2026). The intergenerational dynamics that affect organisational performance is hitherto not the subject of great attention in the existing Nigerian research on the petroleum industry, but rather a focus on generational talent management (Nile University of Nigeria, 2026).

This study, which is grounded in Generational Cohort Theory (Hammerman, 2010; Hennepin, 1991) and Diversity Management Theory (DMT) (Cox & Blake, 1991; Cox, 1993), is concerned with how the management of communication style differences, technological adaptation and reverse mentoring influence organisational performance (Mannheim, 1952; Costanza & Finkelstein, 2015). Properly navigating these

dynamics can enhance coordination and knowledge sharing while minimizing generational conflicts; mismanaged differences can lead to communication challenges, technological disparities, knowledge silos, and decreased efficiency (Jehn et al., 1999; Bell et al., 2011). The paper thus adds to the literature on diversity–performance relationships, as it separates the kinds of intergenerational relationships studied from management interventions, and offers empirical evidence from a strategically important state-owned firm operating in an emerging economy.

2. REVISED LITERATURE REVIEW

2. THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

2.1 Theoretical Framework

The generational cohort theory by Mannheim (1952) and Diversity Management Theory (Cox & Blake, 1991; Cox, 1993) have been included in this study. According to Generational Cohort Theory, individuals from the same historical period tend to have similar values as behavioural orientations due to the sociohistorical experiences they share, which means that they are likely to have similar generational identities in terms of how they communicate in the workplace, attitudes towards technology, and how they share information. But, when differences are not just tolerated but actively managed, Diversity Management Theory suggests that there are competitive advantages to a more diverse workforce - advantages such as the potential for increased creativity, improved problem solving, and improved organisational flexibility (Cox & Blake, 1991; Cox, 1993). The research in this study is based on Wang and Duan (2025) and put forward a differentiated process model that assumes the intergenerational workplace dynamics are emergent patterns of behaviours, while reverse mentoring is a conscious organisational practice, which seeks to manage the intergenerational workplace dynamics and transform it into operational effectiveness. This is more than an enquiry into whether there is a generational difference, it is an inquiry into how organisational practices create a generational difference which can be a strategic asset.

2.2 Management of Communication Style Differences and Organisational Performance

Communication style differences management is the practice of an organisation recognising, accommodating and integrating other generational groups communication style preferences into its processes (Huyler et al., 2025; Richards et al., 2024). While older generations tend to rely on more traditional, formal, and hierarchical communication methods like face-to-face conversations and written memoranda, younger generations are more likely to use informal, digital options like instant messaging and collaborative software (Zahra et al., 2025; Padilla, 2024). If the differences are not managed, information asymmetries can develop, as can slow decision making and coordination inefficiencies. By contrast, deliberately including a multi-channel approach to communication can improve inter-generational teamwork and operational coordination (Richards et al., 2024, Huyler et al., 2025). The efficient management of these differences is hypothesized to bring about increased efficiency in large organizations like NNPC Limited where communication has to span from one generation to the other and from one department to the other. H1. Communication style differences management and organisational performance (operational efficiency) are positively related.

2.3 Technological Adaptation and Organisational Performance

Technological adaptation is defined as the ability and acceptance of workers to learn, adopt and apply the new technology to complete their work tasks (Bertram et al., 2023; Chiwisa & Mpundu, 2024). The

exposure of employees to digital tools, their confidence in using technology and readiness for changes in the work system differ by generation. The findings suggest that younger workers are more likely to have a high level of digital fluency, while older workers have a greater sense of contextual judgment and procedural skills (Chiwisa & Mpundu, 2024; Padilla, 2024). The age effect may become less of a problem in organisations that have the same technological structures and that support technological change at the organisational level, in which case it is argued that the impact of age on operational efficiency is not significant (Bertram et al., 2023). However, if there is unequal technological aid, there may be incompleteness in adaptation which may be a cause of splitting teams and break workflow. The effect of technological adaptation on the operational efficiency is not yet demonstrated in the case of NNPC Limited where the technological infrastructure is being managed centrally in the directorates.

H2. Technological adaptation is positively related to organisational performance (operational efficiency).

2.4 Reverse Mentoring and Organisational Performance

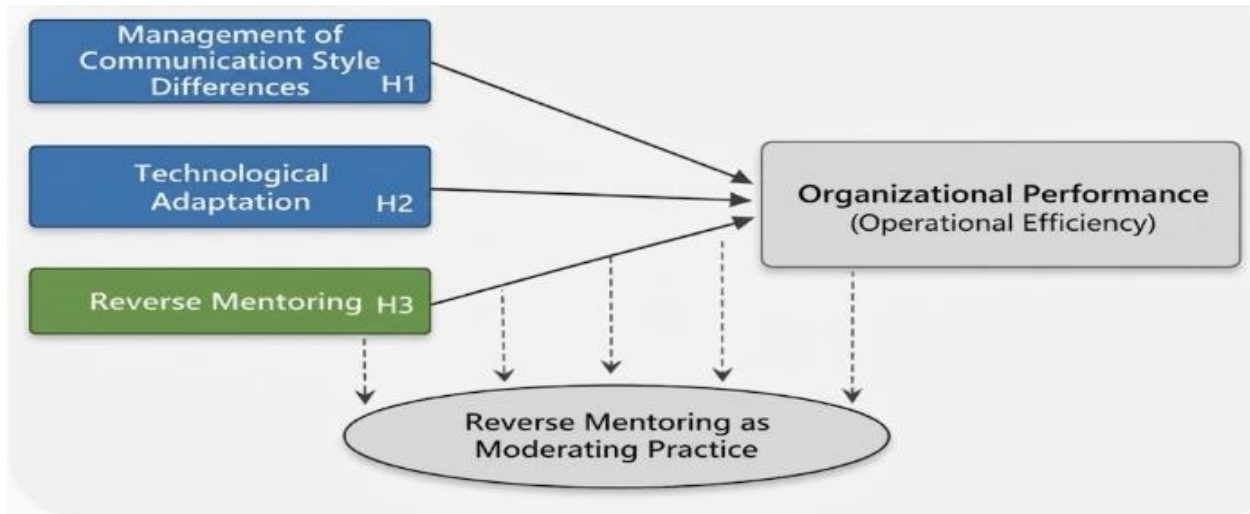
Reverse mentoring requires two individuals – one younger or less senior, and one older or more senior – with the reverse mentoring axis being oriented with the young person or the less senior person imparting knowledge to the older person or the senior employee, typically knowledge related to digital technologies, new work practices, etc. (Wang, 2024; Bertram et al., 2023). Reverse mentoring is an organizational practice, is a reflection of differences in communication style and technological adaptation, and needs to be organized, supported at the management level and be resourced, which distinguishes it from these other practices (Li et al., 2025; O'Connor et al., 2025). By addressing the issue of age stereotyping, reverse mentoring can increase the confidence in technology usage among older employees, and provide continuity of knowledge for younger employees (Wang, 2024; Bertram et al., 2023). The NNPC Limited is a multi-generational organisation and reverse mentoring is the key management tool to maximise the value of generational diversity in improving the efficiency of the organisation.

H3. Reverse mentoring is positively related to organisational performance (operational efficiency).

2.5 The Distinctive Role of Reverse Mentoring

The conceptual framework that underlies the theoretical basis of this study is based on the critical nature of a distinction between organic expression of intergenerational dynamics in the workplace and intentional workplace practices. As generational life together grows, communication style differences and technological adaptation are natural aspects of the process, and are a result of the nature and quality of intergenerational relationships, but not managerial responses. Unlike reverse mentoring, however, reverse mentoring is a tool that has been used and mastered by an organisation (Bertram et al., 2023; Wang, 2024). However, an organisation with high generational heterogeneity may not be a reverse mentoring, and an organisation with reverse mentoring may not have a specific goal of generational diversity (Li et al., 2025). It is an ontological difference, which is central to the contribution of this study, not just in that it reflects a generational difference but because it aims to articulate that difference in terms of the organisational practice which is responsible for making it operational. Hence, considering the hypotheses stated above, the following conceptual model is proposed in Figure 1.

Figure 1
Conceptual Model



Source: Researcher's Conceptualization (2026)

3. METHODOLOGY

3.1 Research Design and Approach

The research type used in this research was quantitative survey research with cross sectional research approach. Given the study's focus on the direct effects of the intergenerational management of communication style differences, technological adaptation and reverse mentoring on organisational performance based on operational efficiency (Creswell & Creswell, 2018), a quantitative approach was deemed appropriate. The cross-sectional design allows for having the data collected at one time and therefore the relationships between the variables as perceived by the employees of NNPC Limited can be evaluated.

3.2 Population and Sample

This study was conducted with the employees of Nigerian National Petroleum Company Limited (NNPC Limited) Abuja, the strategic and administrative headquarters of the company. According to the company's estimation, it had some 6,280 employees nationwide at the second quarter of 2025 (NNPC Limited, 2025). As access to organisations was limited, snowball sampling was applied to the study, whereby other key informants from directorates, work levels and generational cohorts were referred by key informants. It is not possible to access a large public sector organisation, so the non-probability sampling method was necessary. The questionnaires were sent out in both print and electronic form with a total of 320 surveys being sent, via both printed questionnaire and online Google Form. The response rate for that was 89.7% (287 responded). A total of 267 questionnaires were received, of which 267 were complete and straight-lined yielding an 83.4% response rate. The sample size is greater than the critical value for multiple linear regression with three independent variables ($N > 104 + k$ with k = number of predictors) as determined by the formula given by Green (1991), and the number of observations is greater than 20 observations per predictor as determined by the rule of thumb from Hair et al. (2019).

Table 1
Demographic Profile of Respondents

Characteristic	Category	Frequency (n)	Percentage (%)
Gender	Male	156	58.4
	Female	111	41.6
	Total	267	100
Age Group	22–35 years (Gen Z/Millennials)	118	44.2
	36–50 years (Gen X)	98	36.7
	51–65 years (Baby Boomers)	51	19.1
	Total	267	100
	Business Services	62	23.2
Directorate	Gas, Power and New Energy	48	18
	Finance and Accounts	55	20.6
	Upstream	52	19.5
	Downstream	50	18.7
	Total	267	100
Years of Service	Less than 5 years	89	33.3
	5–10 years	76	28.5
	11–20 years	62	23.2
	Above 20 years	40	15
	Total	267	100
Highest Educational Qualification	Bachelor's degree	142	53.2
	Master's degree	98	36.7
	Doctorate/Professional	27	10.1
	Total	267	100

Source: Authors' own work (2026)

The demographic profile shows a good balance of male (58.4%) and female (41.6%). A multigenerational workforce is reflected in the age distribution, which is 44.2% Gen Z/Millennials aged 22 – 35 years, 36.7% Gen X aged 36 – 50 years and 19.1% Baby Boomers aged 51 – 65 years. The respondents were from each of the five major directorates and represented 18.0% to 23.2% of the sample. Most of the respondents had a bachelor's (53.2%) or master's (36.7%) degree and had between less than 5 years (33.3%) and more than 20 years (15.0%) of experience in their institutions, providing institutional diversity.

3.3 Measures

Structured questionnaire items were used to measure all constructs on a 5-point Likert Scale from 1 (Strongly Disagree) to 5 (Strongly Agree), and were adapted from scales previously developed. The instrument was pre-tested with 30 staff members of a similar public sector organisation to make sure it was clear and relevant.

3.3.1 Management of Communication Style Differences ($\alpha = 0.84$). Management of communication style differences was assessed using a six-item scale adapted from Huyler et al. (2025) and Richards et al. (2024). The scale measures the extent to which the organisation recognises, accommodates, and integrates diverse generational communication preferences. Example items include: 'My department uses multiple communication channels to accommodate different generational preferences,' 'Managers in my unit ensure that important information is shared through both formal and informal channels,' and 'My organisation has systems in place to bridge communication gaps between older and younger employees.'

3.3.2 Technological Adaptation ($\alpha = 0.81$). The technological adaptation scale was measured by a 5-item scale adapted from Bertram et al. (2023) and Chiwisa and Mpundu (2024). This scale measures the confidence, willingness and speed of technology adoption among different generational groups. An example of the items is: "Older workers in my unit find it harder to keep up with new technologies used in the workplace than younger workers."

3.3.3 Reverse Mentoring ($\alpha = 0.88$). The reverse mentoring was assessed through a reverse mentoring scale consisting of seven items which was based on Wang (2024), and Bertram et al. (2023). The scale reflects the level of existence, structure, reciprocity and support of reverse mentoring programmes from a leadership perspective. An example item is: "My organisation has a formal program of younger staff mentoring older staff about digital technology."

3.3.4 Organisational Performance, Operational Efficiency ($\alpha = 0.91$). The eight-item scale developed by Chiwisa and Mpundu (2024) and Huyler et al (2025) on operational efficiency was used to measure organisational performance. This scale measures the speed of task completion, the effectiveness of coordination, the lowering of errors and reducing waste of resources. One example of a sample item is, "My work unit is able to finish work on time, without unnecessary delays."

3.4 Control Variables

To make sure of the validity of the results, a few demographic factors – gender, age group, directorate, years of service, and educational qualification – were controlled (Rudolph et al., 2021; Costanza & Finkelstein, 2015).

3.3 Measures

The items on all constructs were measured with structured questionnaire questions using a 5-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree, derived from existing scales. To ensure that the instrument was clear and relevant, it was pre-tested with 30 employees from a similar public sector organisation.

3.3.1 Management of communication style differences ($\alpha = 0.84$). The management of communication style differences were assessed using a 6-item scale adapted from Huyler et al. (2025) and Richards et al. (2024). The scale measures differences in generational preferences, formality and expectations of feedback in the channel. One sample item is: "In my department, older workers communicate through different methods from younger workers."

3.3.2 Technological Adaptation ($\alpha = 0.81$). Technological adaption was assessed through a 5 item scale adapted from Bertram et al. (2023) and Chiwisa and Mpundu (2024). Scale measures confidence, willingness, and rapidity of technology adoption in generational groups. Examples of such items are: "Older workers in my unit are not as skilled as younger ones with new technologies in the workplace."

3.3.3 Reverse Mentoring ($\alpha = 0.88$). The reverse mentoring scale consisted of seven items adapted from Wang (2024) and Bertram et al. (2023). The scale reflects the existence, the structure, the reciprocal nature and the support of reverse mentoring programmes. One of the sample items is: "My organisation has a program in place for younger workers to mentor older ones with digital technologies."

3.3.4 Organisational Performance (Operational Efficiency) ($\alpha = 0.91$). The extent of organisational performance was assessed using an eight-item scale adapted from Chiwisa and Mpundu (2024) and Huyler et al. (2025) that specifically targeted operational efficiency. The scale measures task completion rate, coordination effectiveness, error reduction and the minimization of resource waste. A sample item is: "My work unit completes work tasks in an on-time fashion, with minimal delays."

3.4 Control Variables

To ensure the validity of the results, several demographic factors, including gender, age group, directorate, years of service, and educational qualification were controlled (Rudolph et al., 2021; Costanza & Finkelstein, 2015).

4. RESULTS

4.1 Analytic Procedure

Descriptive statistics were calculated to enable the summarisation of the perception of the study variables of the respondents. The direct effect of management of communication style differences, technological adaptation and reverse mentoring on organisational performance (operational efficiency) was tested using multiple linear regression analysis in IBM SPSS Statistics Version 26. Model fit, overall significance and multicollinearity assumptions were examined prior to the interpretation of the model's coefficients. Bivariate relationships between variables were explored using Pearson correlation analysis. Multicollinearity was checked using the variance inflation factor (VIF) and the tolerance statistics.

4.2 Descriptive Statistics and Correlations

Table 2 shows mean, standard deviations and correlations of all the studied variables. The zero-order correlations were in keeping with the predictions. The strongest correlation was between reverse mentoring and organisational performance ($r = 0.567^{**}$). Reverse mentoring had the highest correlation with organisational performance ($r = 0.567^{**}$). All tolerance values were > 0.10 and VIF values were < 10 , which meant that there was no multicollinearity (Hair et al., 2019).

The mean score for organisational performance was quite high ($M = 3.95$, $SD = 0.68$), indicating a high level of perceived efficiency of the respondents' work units. The intergenerational dynamics of management of communication style differences, technological adaptation and reverse mentoring all had moderate mean scores of 3.70, 3.71 and 3.72 respectively, suggesting that they are observable features of the NNPC Limited workforce.

Table 2*Mean, Standard Deviation, and Correlations*

Variable	Mean	SD	1	2	3	4	5	6	7	8
Gender	1.42	0.49	,							
Age Group	2.25	0.82	−0.045	,						
Years of Service	2.2	1.05	0.038	0.678**	,					
Education	2.57	0.68	0.052	−0.034	−0.028	,				
Communication Style Differences	3.7	0.58	−0.038	0.045	0.067	0.028	,			
Technological Adaptation	3.71	0.51	0.028	−0.052	−0.045	0.035	0.289**	,		
Reverse Mentoring	3.72	0.53	−0.018	0.034	0.056	0.042	0.378**	0.245**	,	
Organisational Performance	3.95	0.68	−0.025	0.041	0.078	0.038	0.412**	0.198**	0.567**	,

Note. N = 267. Gender coded 1 = Male, 2 = Female. *Correlation is significant at the 0.01 level (two-tailed).

Source: Authors' own work (2026)

4.3 Multiple Linear Regression Analysis

To investigate the impact of the independent variables on organisational performance, multiple linear regression analysis was used. The analysis was carried out in two hierarchical steps. Only the control variables were used in Model 1. Model 2 included the three additional independent variables: Management of communication style differences, technological adaptation and reverse mentoring.

Table 3*Hierarchical Regression Results*

Variables	Model 1 (Controls Only)			Model 2 (Full Model)		
	β	SE	t	β	SE	t
Control Variables						
Gender	−0.032	0.09	−0.517	−0.028	0.076	−0.458
Age Group	0.041	0.05	0.664	0.035	0.045	0.612
Years of Service	0.067	0.04	1.087	0.052	0.036	0.91
Education	0.038	0.06	0.616	0.031	0.054	0.503
Directorate (dummy)	0.045	0.03	0.729	0.038	0.026	0.616
Independent Variables						
Management of Communication Style Differences				0.166**	0.062	2.677
Technological Adaptation				−0.056	0.071	−0.901
Reverse Mentoring				0.519***	0.058	8.948
R^2	0.012			0.327		

Variables	Model 1 (Controls Only)	Model 2 (Full Model)
Adjusted R^2	-0.008	0.319
ΔR^2		0.315
F	0.634	42.503***
ΔF		42.231***

Note. N = 267. Standardized beta coefficients (β) reported. ** $p < .01$, *** $p < .001$. *

Source: Authors' own work (2026)

Model 1, containing only control variables, was not statistically significant ($F(5, 261) = 0.634, p = .675, R^2 = .012$), indicating that demographic factors explain minimal variance in organisational performance.

Model 2, adding the three independent variables, was statistically significant ($F(8, 258) = 42.503, p < .001$) and explained 32.7% of the variance in organisational performance ($R^2 = .327, \text{Adjusted } R^2 = .319$). The change in R^2 ($\Delta R^2 = .315, \Delta F = 42.231, p < .001$) indicates that the intergenerational workplace dynamics variables contribute substantially to explaining operational efficiency beyond demographic controls.

Hypothesis Testing:

H1 supported: Management of communication style differences has a positive and statistically significant effect on organisational performance ($\beta = .166, p = .008$). This indicates that organisations which actively recognise, accommodate, and integrate diverse generational communication preferences into their workflows achieve higher operational efficiency.

H2 not supported: Technological adaptation does not have a statistically significant effect on organisational performance ($\beta = -.056, p = .365$). The negative coefficient, though not significant, suggests that differences in technological adaptation across generations do not independently predict operational efficiency in this context, possibly because technological competence is diffused through other mechanisms such as formal training or reverse mentoring.

H3 supported: Reverse mentoring has a strong and statistically significant positive effect on organisational performance ($\beta = .519, p < .001$), making it the strongest predictor in the model. This suggests that structured knowledge-sharing relationships in which younger employees mentor older colleagues on digital technologies and emerging practices substantially enhance organisational operational efficiency.

4.4 Collinearity Diagnostics

Table 4

Collinearity Diagnostics

Predictor	Tolerance	VIF
Management of communication style differences	0.666	1.501
Technological Adaptation	0.665	1.503
Reverse Mentoring	0.862	1.16

Note. VIF = Variance Inflation Factor. Threshold: $VIF < 10$, $\text{Tolerance} > .10$ (Hair et al., 2019).

Source: Authors' own work.

The collinearity diagnostics indicate that multicollinearity is not present in the model. All tolerance values exceed the threshold of .10, and all VIF values are well below the commonly accepted cut-off of 10 (Hair et al., 2019). This confirms that the independent variables are not highly correlated with each other and that the regression coefficients are stable and reliable.

5. DISCUSSION

5.1 Effect of Intergenerational Workplace Dynamics on Organisational Performance

The regression model indicates that organisational performance in NNPC Limited is significantly explained by the intergenerational workplace constructs together accounting for a proportion of 32.7% of the variance in the model. This discovery reinforces the importance of relational and behavioural patterns that are developing in the workplace due to the way generations relate to each other, not just as a by-product, but as a critical factor in operational efficiency. However, when properly managed, Baby Boomers, Generation X, Millennials and Gen Z can complement each other and showcase the ability to enhance task coordination and optimise the use of resources (Chiwisa & Mpundu, 2024; Huyler et al., 2025). In the case of NNPC Limited, corporate administration is a multi-directorate affair and is carried out in the corporate building in Abuja, and the interplay between the two generations of workers in the firm, mediated through communication practices, the use of technology and mentoring relations, shapes the outcomes of the processes. This is consistent with Diversity Management Theory which believes that identifying and embracing employee differences within organisational systems will enhance the effectiveness of an organisation's operations (Cox, 1993; Thomas, 1996). This implies that NNPC Limited's human resource policies need to be more than just reactive, based on whether the workplace is occupied by the older generation and the younger generation; it needs to be more proactive in ensuring the dynamics between the two generations are managed so as to foster performance continuity.

5.2 Effect of Management of Communication Style Differences on Organisational Performance

Management communication style differences between the generations have a positive and statistically significant impact on organisational performance. By understanding the preference for older individuals to engage in formal written communication versus younger generations, who may favor instant digital communication, leaders can create a multi-channel communications approach that helps eliminate information bottlenecks and speed decision-making processes (Huyler et al., 2025; Richards et al., 2024). This facilitates directorates to carry out their activities in a coordinated manner across hierarchical and generational boundaries in NNPC Limited, and allows operational instructions to be cascaded through the channels that are accessible to all groups of directorates. This aligns with the Generational Cohort Theory that suggests that common historical events create unique communication and behavioral styles (Mannheim, 1952). Management of communication style differences represents an organic form of intergenerational communication in the workplace and indicates the presence of generational heterogeneity; with the use of inclusive communication models, communication style differences can be used to facilitate intergenerational teamwork and operational coordination instead of as a source of conflict.

5.3 Effect of Technological Adaptation on Organisational Performance

There is no statistically significant effect of technological adaptation on organisational performance. It implies that the different generations' adaptation to the workplace technology has no independent influence on operational efficiency in NNPC Limited. Technology use might be sufficiently uniform within

generational cohorts in a large public organisation going through a commercial transformation, minimizing generational differences in technology usage (Bertram et al., 2023). This discovery adds another layer of complexity to the use of Generational Cohort Theory, which states that cohorts tend to have varying degrees of digital orientation but that differences in digital orientation can be dampened through a supportive organisational framework. Technological adaptation is an organic response to intergenerational workplace relations, and seems to be neutralised by institutional training and support. Public sector managers should therefore pay more attention to the digital infrastructure of the organisation as a whole, not the generational division of digital divides that automatically means less efficiency.

5.4 Effect of Reverse Mentoring on Organisational Performance

Reverse mentoring is the most significant and positive, statistically, impact on organisational performance, meaning that formal knowledge sharing arrangements where younger workers learn from older workers about new practices and digital technologies have a big positive effect on improving organisational performance. Reverse mentoring breaks down the age barriers and promotes mutual learning between generations, encouraging the sharing of institutional knowledge and modern information technologies (Wang, 2024; Bertram et al., 2023). This seems to increase the technological confidence of the higher level staff in NNPC Limited and maintain the procedural discipline which directly enhances the speed of service delivery and lessens errors. This is the main theoretical contribution of this study. Reverse mentoring is an organised practice, as opposed to communication style difference and technological adaptation, which are natural and happen as generations interact, and is managed, resourced and monitored by management. The dominant effect ($\beta = .519$) confirms Diversity Management Theory's underlying premise of transforming differences into diversity through reciprocal organisational practices (Cox, 1993; Thomas, 1996), but adds specificity as to how Generational Diversity is translated into operational capability. While some organisations can have a significant degree of generational heterogeneity and experience no performance benefits, others can experience a difference in performance due to the implementation of reverse mentoring, which brings a change to the latent generational complementarities becoming explicit in the organisation's operations. NNPC Limited should therefore implement reverse mentoring programmes that are clearly defined, have clear leadership support and are participatory in order to optimise operational outcomes.

5.5 Theoretical Implications

By applying a differentiated process model that distinguishes between organic manifestations of intergenerational relations in the workplace and intentional organisational action, this study contributes to theory by building on the research of Generational Cohort Theory (Mannheim, 1952) and Diversity Management Theory (Cox, 1993; Thomas, 1996). The absence of a significant effect of technological adaptation, coupled with the predominant effect of reverse mentoring, indicates that generational diversity becomes a strategic asset only if it is actively orchestrated through mechanisms, not just by demographic cohabitation as a spontaneous phenomenon. This places reverse mentoring not just as a piece of diversity, but as a key organisational practice that will enable to maximise the performance of intergenerational work relationships.

5.6 Practical Implications

Three actionable recommendations emerge for NNPC Limited administrators and human resource managers. Institute reverse mentoring programmes as the key to unlocking the complementarities of generations into operational capability, with clear objectives, leadership support and frameworks for

participation. Second, establish multichannel communication structures that span generations of preference for formal written and digital communication, to minimize information silos and enhance communication between directors. Third, invest in and enhance the organizational digital infrastructure and support mechanisms instead of investing in too much digital skills training specifically for cohorts, and using operational efficiency as a proxy instead of missing out on generational deficits.

NNPC Limited and other policymakers in the petroleum industry should integrate intergenerational workplace dynamics management skills in recruitment and promotion processes, and performance management systems, and require a reverse mentoring approach and an audit of intergenerational communication practices across directorates before major changes in operations or digital transformation projects (OECD, 2020; World Bank, 2024). Carefully evaluating intergenerational dynamics will lower the operational and fiscal burden of the effects of intergenerational differences in the workforce, such as coordination failures, information bottlenecks and underutilised human capital that can unfold as a result of unmanaged intergenerational differences.

6. Conclusion

Intergenerational workplace dynamics and their relationships with organisational performance were explored in the Nigerian National Petroleum Company Limited (NNPC Limited), Abuja with emphasis on two types of intergenerational workplace dynamics: differences in communication style and differences in technological adaptation, both of which are organic, and one deliberate organisational practice (reverse mentoring). The findings suggest that work intergenerational relationships have significant relationship with organisational performance. Specifically, reverse mentoring is more powerful than communication style differences to predict operational efficiency, while communication style differences is positively and statistically significantly correlated to operational efficiency. There is no independent association of technological adaptation, however, that is statistically significant. The regression analysis revealed that the model is statistically significant and explains 32.7% of the variance in organisational performance, implying that intergenerational relations in the workplace that are managed properly may actually be an asset rather than a liability.

Theoretically, the study is based on a differentiated process model, a combination of the Generational Cohort Theory and Diversity Management Theory, distinguishing between emergent behavioural patterns and intentional organisational practices. This integration illustrates that learning across generations, when managed and worked on, can be a strategic asset to improve the operational productivity of a large public organisation, if done through inclusive communication practices and building intergenerational knowledge transfer. This non-significant association of technological adaptation in this analysis adds another dimension to Generational Cohort Theory because the use of technology does not appear to have a significant association with performance in the presence or absence of inter-cohort digital divides in the form of a passive presence of different generations, it is in the form of active reciprocal organisational practices.

The findings in practice show that NNPC Limited can improve its operational results through investment in multichannel communication channels to cater for the differences in preference between generations, adoption of reverse mentoring programmes with clear objectives and commitment by the leadership; and reduction in the time and technology training budgets by focusing on training of organisational support systems and not just on generational gap in technology. Further research is necessary to build on the current

model, extending it longitudinally to track the relationships of successive generational cohorts over time, or in other public sector organisations or private energy companies in Nigeria to establish generalizability.

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