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Workplace Behavior and Productivity of Multigenerational Employees in Regional Line Agencies in the Cordillera Administrative Region, Philippines

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Abstract: This study examined workplace behavior, work productivity, and work-related challenges among multigenerational employees in Regional Line Agencies (RLAs) in the Cordillera Administrative Region, Philippines. A quantitative descriptive-survey design was used with 333 employees classified as Baby Boomers, Generation X, Generation Y, or Generation Z. A researcher-developed 35-item questionnaire demonstrated high internal consistency in pilot testing (Cronbach's $\alpha \approx .96$). Weighted means, one-way analysis of variance, frequencies, and ranking were used. Workplace behavior was rated very high overall ($M = 3.46$), with adaptability receiving the highest mean ($M = 3.52$). Work productivity was likewise very high across work quality, effectiveness, and timeliness ($M = 3.26$ – 3.27). No statistically significant generational differences were found across the assessed behavior or productivity dimensions (all $p > .05$). Training and development, technology and tools, and work-life balance emerged as the leading challenges. The findings support context-sensitive workforce management rather than generation-based assumptions.

1. INTRODUCTION

Age-diverse workplaces are now ordinary rather than exceptional. Employees who entered public service under different technological, economic, and administrative conditions often work within the same organizational systems, making questions about intergenerational differences attractive to managers. Yet the empirical literature does not justify treating generational labels as fixed explanations for work behavior. Reviews and meta-analytic evidence have repeatedly shown that many apparent cohort differences are small, inconsistent, or difficult to disentangle from age, career stage, and historical period effects [1–3]. This makes organizational context especially important when examining multigenerational workforces.

The public sector presents a useful setting for this question because employees operate within common rules, standardized performance systems, formal hierarchies, and shared service mandates. Philippine public agencies also face a continuing transition toward digital processes, electronic records, data-driven decision making, and technology-supported service delivery. Research on digital transformation in ASEAN shows that technological change is institutionally embedded: organizational capability, governance arrangements, and coordination shape how digital systems are absorbed and used [4,5]. Consequently, differences that appear generational may instead reflect access to training, task design, managerial support, digital exposure, or person-environment fit.

This distinction matters for management practice. If age cohorts are assumed to have inherently different levels of adaptability, accountability, collaboration, assertiveness, or productivity, human-resource interventions may be built around stereotypes rather than demonstrated needs. Contemporary scholarship cautions against this approach. Rudolph et al. [3] argue that lifespan and contextual explanations are often more defensible than broad generational typologies, while Keane et al. [6] show that

employee outcomes are shaped by interactions among individual characteristics, organizational demands, available resources, and fit. Evidence from public-sector research likewise indicates that intergenerational challenges may manifest through technology use, communication, work values, motivation, and learning requirements, but these patterns are not uniform across settings [7].

The Cordillera Administrative Region (CAR) offers a relevant context for examining these issues. Regional Line Agencies (RLAs) employ personnel from Baby Boomer, Generation X, Generation Y, and Generation Z cohorts within the same administrative environment. The RLA workforce is age-diverse, and the study identified technology, training, and flexible work arrangements as practical workplace concerns. These conditions create an empirical setting in which generational comparisons can be assessed without assuming in advance that cohort membership determines performance.

The present article therefore examines self-reported workplace behavior and work productivity among employees of RLAs in CAR. Workplace behavior is represented by adaptability, accountability, collaboration, and assertiveness. Work productivity is represented by work quality, work effectiveness, and work timeliness. The analysis also identifies leading workplace challenges and tests whether behavior and productivity differ significantly by generational cohort. The article is intentionally descriptive and comparative: it does not infer that workplace behavior causes productivity, and it does not treat generational membership as a causal variable.

The study addressed four research questions: (1) What is the level of workplace behavior of RLA employees in terms of adaptability, accountability, collaboration, and assertiveness? (2) Do the assessed workplace-behavior dimensions differ significantly across generational cohorts? (3) What is the level of self-reported work productivity in terms of work quality, work effectiveness, and work timeliness, and do these dimensions differ significantly across generations? (4) What workplace challenges are most frequently identified by the employees, and which issues are most salient within the generational groups?

1.1 Generational Cohorts as a Workplace Lens

Generational cohort perspectives propose that people who experience similar social and historical events during formative periods may develop partly shared orientations toward work. This perspective can be useful for describing patterns, but it becomes problematic when cohort labels are treated as stable psychological traits. Lyons and Kuron [2] found the evidence base on workplace generations to be fragmented and methodologically inconsistent. Costanza et al. [1] similarly reported that differences in work-related attitudes across generations were generally small. More recent critiques have emphasized that age, period, career stage, tenure, and social context are often confounded with the generation construct [3].

For this reason, the present study uses generation as a grouping variable rather than a deterministic explanation. This approach is consistent with recent evidence showing that context and experience may matter more than age labels. Lööw et al. [8], for example, found few differences between younger and older managers in workload, health, and work satisfaction, while managerial experience was more informative for some leadership outcomes. Huyler et al. [9] likewise emphasize adaptive and inclusive leadership rather than one-size-fits-all assumptions about generational cohorts.

1.2 Workplace Behavior and Person–Environment Fit

Adaptability refers to the capacity to adjust behavior, priorities, or methods when work conditions change. It has become more salient as public organizations digitize processes and employees encounter new technologies, reporting systems, and service expectations. Digital change does not affect employees only through technical requirements; it also alters workload, communication, and the pace of work. Marsh et al. [10] show that digital workplace intensity can generate both enabling and demanding conditions, reinforcing the need to examine adaptation in organizational context rather than as a presumed feature of a particular age group.

Accountability concerns ownership of assigned responsibilities and the willingness to answer for work outcomes. Collaboration concerns coordinated work, information sharing, and constructive interaction with colleagues. Assertiveness concerns the ability to communicate needs, boundaries, ideas, and concerns appropriately. Taken together, these dimensions capture behavioral capacities relevant to public-service delivery. Their expression may be influenced by leadership, task clarity, social norms, and opportunities for learning rather than by cohort membership alone.

Person-environment fit provides a useful complementary lens. Keane et al. [6] synthesize evidence showing that employee engagement and related outcomes emerge through interactions among individual needs, abilities, organizational supplies, and

job demands. Under this view, high or low workplace behavior is not simply an attribute of age or generation. It is partly a function of whether employees have the resources, expectations, and organizational conditions needed to perform effectively.

1.3 Work Productivity and the Digital-Work Context

In this study, productivity is operationalized through employees' assessments of work quality, work effectiveness, and work timeliness. These dimensions reflect whether work is completed to expected standards, whether tasks achieve intended results, and whether deliverables are completed within required time frames. Time-management research has long shown that productivity is shaped by both individual practices and organizational time structures rather than by personal discipline alone [11].

Technology adds another layer to productivity. Digital systems can improve coordination and speed, but they can also create new skill demands and implementation burdens. In ASEAN, digital development research has increasingly shifted from a narrow technology-adoption perspective toward questions of governance, institutional capability, and coordination [5]. A related mixed-method framework by Osma [4] also treats digital transformation as one component of broader institutional development rather than a stand-alone technical outcome. For public organizations, this suggests that technology-related productivity depends on training, access, support, and organizational readiness.

Work arrangements and developmental opportunities may also shape how employees experience productivity. Muniz et al. [12] found that some work-related preferences and engagement patterns vary across cohorts, but not consistently across all outcomes. The World Economic Forum [13] similarly identifies technological literacy, resilience, flexibility, and continuous learning among skills that organizations increasingly need. These findings support examining training, tools, and work-life arrangements as practical conditions that may cut across generational categories.

1.4 Analytical Expectation

The study does not assume that generational cohorts will differ. Instead, the descriptive and inferential analysis tests whether differences are observable in this RLA sample. If cohort effects are weak while training, technology, and work-system issues are prominent, the findings would favor context-sensitive management over generation-specific prescriptions.

2. MATERIALS AND METHODS

2.1 Research Design and Setting

A quantitative descriptive-survey design was used. Data were collected from employees of participating Regional Line Agencies in the Cordillera Administrative Region, Philippines. The design was appropriate because the study sought to describe current levels of workplace behavior and work productivity, compare these outcomes across generational groups, and identify the workplace challenges reported by employees. No experimental manipulation was introduced, and the analysis does not support causal inference.

2.2 Participants and Sampling

Purposive sampling was used to recruit employees who had served in an RLA for at least one year. A total of 333 usable responses were included in the analysis. Generation Y represented the largest group (56.2%), followed by Generation X (27.0%), Generation Z (11.4%), and Baby Boomers (5.4%). Because the cohort sizes were unequal, generational comparisons are interpreted cautiously and primarily as tests of whether broad between-group differences were detectable in this sample.

2.3 Instrument

The principal instrument was a researcher-developed online questionnaire. The scored sections contained 35 statements: 20 items assessed workplace behavior and 15 items assessed work productivity. Workplace behavior covered adaptability, accountability, collaboration, and assertiveness; productivity covered work quality, work effectiveness, and work timeliness. Items used a four-point response scale in which higher values indicated stronger or more frequent desirable behavior and higher perceived productivity. A final section asked respondents about challenges related to technology and tools, workload and time management, communication and collaboration, work-life balance, training and development, and recognition and reward.

Before the main survey, the instrument was pilot-tested with 18 respondents. Reliability analysis indicated high internal consistency for the 35 scored items (Cronbach's $\alpha \approx .96$). Face validation was conducted with the research adviser and dissertation panel.

2.4 Data Collection and Ethical Safeguards

Data collection took place from May 29 to July 8, 2025 through Google Forms after permission was sought from the heads of the participating agencies. The cover information stated that participation was voluntary, that respondents could withdraw, that responses would be used for research purposes, and that anonymity would be maintained. The questionnaire required complete responses to minimize missing data. Informal conversations conducted during workplace breaks were described in the dissertation as contextual inputs; because they were not subjected to a formal qualitative analytic protocol, they are not treated as a separate qualitative dataset in this article.

2.5 Statistical Analysis

Weighted means were used to summarize workplace behavior and productivity. One-way analysis of variance (ANOVA) was used to test generational differences at a significance level of $\alpha = .05$. Frequencies and ranks were used to summarize reported workplace challenges. Inferential findings are reported through the documented p-values and significance decisions for each assessed dimension.

Table 1. Distribution of respondents by generational cohort

Generational cohort	n	%
Baby Boomer	18	5.4
Generation X	90	27.0
Generation Y	187	56.2
Generation Z	38	11.4
Total	333	100.0

3. RESULTS AND DISCUSSION

3.1 Workplace Behavior

Respondents rated all four workplace-behavior dimensions at the very high level. Adaptability recorded the highest mean ($M = 3.52$), followed by accountability ($M = 3.49$), collaboration ($M = 3.46$), and assertiveness ($M = 3.37$). The overall mean was 3.46. The pattern indicates that employees generally perceived themselves as able to adjust to changing demands, take responsibility for work, cooperate with colleagues, and communicate positions or boundaries appropriately.

Table 2. Workplace-behavior profile

Dimension	Weighted mean	Descriptive interpretation
Adaptability	3.52	Very high
Accountability	3.49	Very high
Collaboration	3.46	Very high
Assertiveness	3.37	Very high
Overall	3.46	Very high

The high ratings should be interpreted as self-reported perceptions rather than objective behavioral observations. Even so, the relative ordering is informative. Adaptability's leading position is consistent with a public-service environment in which

employees must respond to changing procedures, digital tools, deadlines, and service requirements. The lower, though still very high, assertiveness score suggests that expressing boundaries or concerns may be somewhat less consistently practiced than adapting to change or accepting responsibility.

3.2 Generational Differences in Workplace Behavior

ANOVA results showed no statistically significant generational differences in adaptability, accountability, collaboration, or assertiveness. All reported *p*-values were substantially above .05. Thus, the data do not support the claim that one generational cohort in these RLAs systematically displayed stronger workplace behavior than another.

Table 3. Generational comparison of workplace-behavior dimensions

Dimension	Overall mean	<i>p</i> -value	Decision
Adaptability	3.52	.716	Not significant
Accountability	3.49	.521	Not significant
Collaboration	3.46	.995	Not significant
Assertiveness	3.37	.950	Not significant

Note. One-way ANOVA; $\alpha = .05$.

This finding is important because it runs against common managerial narratives that portray older and younger employees as behaviorally distinct by default. It is more consistent with meta-analytic and critical research showing that broad generational effects are often small or unstable [1,3]. The result also resembles the contextual pattern reported by Lööw et al. [8], where several expected age-group differences were not significant once work conditions and experience were considered. In the RLA setting, shared administrative procedures, service standards, supervisory systems, and organizational norms may narrow behavioral differences that popular generational stereotypes would predict.

3.3 Work Productivity

Self-reported work productivity was also rated very high. Work effectiveness had the highest mean ($M = 3.27$), while work quality and work timeliness each had a mean of 3.26. The narrow range among the three dimensions suggests a relatively uniform productivity profile rather than a single dominant strength.

Table 4. Work-productivity profile

Dimension	Weighted mean	Descriptive interpretation
Work quality	3.26	Very high
Work effectiveness	3.27	Very high
Work timeliness	3.26	Very high

The productivity results indicate that respondents generally believed they delivered work that met expected standards, achieved intended outcomes, and was completed within required time frames. These are useful indicators of perceived performance, but they are not substitutes for objective administrative measures such as output volume, processing time, error rates, or supervisor ratings. The distinction is relevant because self-reported productivity can be influenced by common-method and social-desirability effects.

3.4 Generational Differences in Work Productivity

No statistically significant generational differences were reported for work quality ($p = .742$), work effectiveness ($p = .788$), or work timeliness ($p = .304$). The findings therefore provide no basis for ranking Baby Boomers, Generation X, Generation Y, or Generation Z in terms of productivity within this sample.

Table 5. Generational comparison of work-productivity dimensions

Dimension	Overall mean	p-value	Decision
Work quality	3.26	.742	Not significant
Work effectiveness	3.27	.788	Not significant
Work timeliness	3.26	.304	Not significant

Note. One-way ANOVA; $\alpha = .05$.

This result reinforces the argument that generation is a weak stand-alone basis for productivity policy. The literature on workplace generations has repeatedly warned that cohort comparisons can obscure job design, experience, leadership, and work-system effects [2,3]. Person-environment fit offers a more useful explanation: employees may perform similarly across cohorts when they operate under comparable standards, supports, and organizational expectations [6]. Time management also depends on organizational structures and norms, not merely on individual or generational preference [11].

3.5 Workplace Challenges

The challenge data shift attention away from generation as a direct explanation and toward organizational resources. Training and development ranked first overall, followed by technology and tools and work-life balance. Recognition and reward, workload and time management, and communication and collaboration followed. Subgroup patterns identified technology/tools and training/development as the leading concerns among Baby Boomers; training/development among Generation X and Generation Y; and technology/tools together with work-life balance among Generation Z.

Table 6. Overall workplace challenges reported by respondents

Challenge area	Overall frequency	Rank
Training and development	106	1
Technology and tools	66	2
Work-life balance	62	3
Recognition and reward	39	4
Workload and time management	34	5
Communication and collaboration	26	6

Note. Frequencies and ranks summarize the reported workplace challenges.

Training and development being the leading challenge is particularly notable because it is actionable and not inherently generation-specific. Contemporary work requires continuous learning as technology changes, and the World Economic Forum [13] identifies technological literacy, resilience, flexibility, and lifelong learning as increasingly important workforce capabilities. In digital workplaces, inadequate training can also intensify technology-related demands and strain [10]. Thus, the key managerial issue is not whether one cohort is naturally more technologically capable, but whether employees receive sufficient access, time, support, and role-relevant development.

The same logic applies to public-sector digital transformation. ASEAN research has increasingly framed digital development as a governance and capability challenge rather than simply a matter of adopting new tools [4,5]. For RLAs, new systems are unlikely to improve productivity if employees lack structured opportunities to learn them or if work processes do not adapt alongside technology. The practical implication is to treat digital capability as an institutional responsibility rather than a generational trait.

Work-life balance ranked third overall and appeared especially salient in the Gen Z narrative. This is compatible with evidence that work-arrangement preferences and engagement can vary across groups, although not consistently across every outcome [12]. The result supports flexible, needs-based human-resource policies but does not justify assuming that all younger employees

want the same arrangements. A more defensible approach is to offer transparent options, evaluate operational feasibility, and monitor actual employee outcomes.

3.6 Integrated Interpretation and Practical Implications

Across the findings, the strongest pattern is convergence rather than generational separation. Workplace behavior and self-reported productivity were consistently high, and none of the assessed dimensions differed significantly across generations. The practical problems identified by respondents—training, technology, work-life balance, recognition, workload, and communication—are better understood as work-system issues that can affect employees at multiple career stages.

For RLA leaders, three implications follow. First, workforce policies should be based on demonstrated competency and support needs rather than generalized cohort stereotypes. Second, technology implementation should be paired with structured training, role-specific support, and opportunities for peer learning. Third, performance management should distinguish between age or generation and modifiable organizational conditions such as access to tools, workload distribution, supervisory feedback, and flexibility.

The findings also suggest that intergenerational management can be reframed as inclusive workforce management. Huyler et al. [9] emphasize leadership that adapts to situational and employee needs rather than presuming fixed generational characteristics. Such an approach is compatible with the present results: because broad behavioral and productivity differences were not observed, managers have more reason to focus on individual capabilities and contextual demands than on cohort-based prescriptions.

4. CONCLUSION

Employees in the participating Regional Line Agencies reported very high workplace behavior across adaptability, accountability, collaboration, and assertiveness, together with very high perceived productivity across work quality, effectiveness, and timeliness. The study found no statistically significant differences among Baby Boomers, Generation X, Generation Y, and Generation Z on any of these assessed dimensions. The evidence therefore does not support a simple claim that generation determines behavior or productivity in this public-sector setting.

The more consequential result lies in the challenges reported by employees. Training and development, technology and tools, and work-life balance were the leading concerns. These are organizationally tractable conditions. RLAs can respond through continuous digital-skills development, accessible technological support, inclusive leadership, transparent flexible-work arrangements where feasible, and individualized development planning.

Several limitations should guide interpretation. The study relied on purposive sampling and self-report measures, used unequal cohort sizes, and employed a cross-sectional design. It did not test a causal or correlational pathway between workplace behavior and productivity, and it did not include objective productivity indicators. Future studies should use probability or stratified sampling where feasible, validate the instrument through factor analysis in a larger sample, incorporate objective or supervisor-rated performance indicators, and examine age, tenure, job level, digital-skill exposure, and organizational context alongside or instead of broad generational labels. Longitudinal designs would be especially useful for separating life-stage effects from cohort narratives.

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AUTHOR CONTRIBUTIONS

Carmen C. Lardizabal: Conceptualization, Methodology, Investigation, Data Curation, Formal Analysis, Writing—Original Draft, Writing—Review & Editing.

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CONFLICT OF INTEREST

The author declares no conflict of interest.

ETHICS STATEMENT

Permission to conduct data collection was sought from the heads of the participating agencies. Respondents were informed that participation was voluntary, that they could withdraw, that responses would be used for research purposes, and that anonymity would be protected. The study documentation available for this article does not identify a separate institutional ethics-review reference number.

DATA AVAILABILITY STATEMENT

The data underlying this article are based on the author's dissertation dataset. Access may be considered by the author subject to institutional permissions, participant confidentiality, and applicable data-protection requirements.

GENERATIVE AI STATEMENT

Generative AI tools were used for language editing, structural organization, and formatting support in preparing the journal-article version of the manuscript. Generative AI was not used to generate, alter, or analyze the study data. The author reviewed the full manuscript and accepts responsibility for the accuracy, integrity, and interpretation of the work.

REFERENCES

- [1] Costanza, D.P., Badger, J.M., Fraser, R.L., Severt, J.B., Gade, P.A., 2012. Generational differences in work-related attitudes: A meta-analysis. *Journal of Business and Psychology* 27, 375–394. <https://doi.org/10.1007/s10869-012-9259-4>
- [2] Lyons, S., Kuron, L., 2014. Generational differences in the workplace: A review of the evidence and directions for future research. *Journal of Organizational Behavior* 35(S1), S139–S157. <https://doi.org/10.1002/job.1913>
- [3] Rudolph, C.W., Rauvola, R.S., Costanza, D.P., Zacher, H., 2021. Generations and generational differences: Debunking myths in organizational science and practice and paving new paths forward. *Journal of Business and Psychology* 36, 945–967. <https://doi.org/10.1007/s10869-020-09715-2>
- [4] Osmá, A.N., 2025. Measuring digital trade development in ASEAN: A mixed-method framework. *Electronic Journal of Business Research Methods* 23(1), 35–52. <https://doi.org/10.34190/ejbrm.23.1.3982>
- [5] Osmá, A.N., 2026. From e-commerce to governance: A Triple Helix scientometric mapping of ASEAN's digital trade research evolution (2015–2023). *Journal of Scientometric Research* 15(1), 133–150. <https://doi.org/10.5530/jscires.20262074>
- [6] Keane, A., Kwon, K., Kim, J., 2024. An integrative literature review of person–environment fit and employee engagement. *Journal of Management & Organization* 30(6), 2149–2178. <https://doi.org/10.1017/jmo.2023.71>
- [7] Manongcarang, S.M.D., Guimba, S.D., 2024. Intergenerational challenges and how they manifest in the public workforce: A basis for designing effective performance management strategies. *International Journal of Entrepreneurship and Management Practices* 7(25), 67–87. <https://doi.org/10.35631/IJEMP.725007>
- [8] Lööw, J., Vinberg, S., Johansson, J., Jakobsson, M., Mattson Molnar, M., Larsson, J., 2024. Exploring differences in leadership behaviors and in the perceived work environment between younger and older managers in a Swedish mining company. *Mining, Metallurgy & Exploration* 41, 2835–2848. <https://doi.org/10.1007/s42461-024-01111-1>
- [9] Huyler, D., Gomez, L., Rocco, T.S., Plakhotnik, M.S., 2025. Leading different generational cohorts in the workplace: Focus on situational and inclusive leadership. *New Horizons in Adult Education and Human Resource Development* 37(1). <https://doi.org/10.1177/19394225241297230>
- [10] Marsh, E., Perez Vallejos, E., Spence, A., 2024. Digital workplace technology intensity: Qualitative insights on employee wellbeing impacts of digital workplace job demands. *Frontiers in Organizational Psychology* 2, 1392997. <https://doi.org/10.3389/forgp.2024.1392997>
- [11] Aeon, B., Aguinis, H., 2017. It's about time: New perspectives and insights on time management. *Academy of Management Perspectives* 31(4), 309–330. <https://doi.org/10.5465/amp.2016.0166>
- [12] Muniz, C.J., Jones, J.S., Murray, S.R., 2024. A generational preference for preferred work arrangement and the relationship with employee engagement and turnover intention. *Journal of Business Diversity* 24(3). <https://doi.org/10.33423/jbd.v24i3.7257>
- [13] World Economic Forum, 2025. *The Future of Jobs Report 2025*. World Economic Forum. <https://www.weforum.org/publications/the-future-of-jobs-report-2025/>