

**UTILIZATION OF ARTIFICIAL INTELLIGENCE TOOLS AMONG MID-LIFERS  
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Mintal Campus, Davao City**ABSTRACT**

This study aimed to determine the significant difference in the utilization of Artificial Intelligence tools among mid-lifers in the government service. The researchers utilized non-experimental quantitative and comparative research design to determine significant differences. It is anchored on the Institutions specifically supporting the objective of Target 16.6 under this goal, develop effective, accountable and transparent institutions at all levels. The study was conducted with 105 employees from the different government agencies. The researchers found out that mid-lifers revealed moderate level as to the utilization of AI tools in terms of construct Perils. Moreover, they manifested high level for the constructs Promises and Powers. Lastly, they disclosed non-significant difference in the level of utilization of AI tools when they are grouped by gender, work, status, and length of service in terms of constructs Perils and Promises. Mid-lifers manifested significant difference in the utilization of AI tools, particularly on the indicator Perils on which mid-lifers handling Permanent position is leading. No significant difference was noted for the indicators Promises and Power.

**Keywords:**

Artificial Intelligence, Mid-Lifers, Government Service, Perils, Promises, Power

**INTRODUCTION**

In the context of public administration, employees' ability to understand and utilize AI tools is critical to successful digital transformation. Mid-lifers, typically aged 35–55, occupy essential operational and supervisory roles that directly influence the adoption and implementation of emerging technologies in government service (AP-NORC, 2024). Unlike younger digital natives, mid-lifers often balance substantial institutional experience with the need to adapt to rapidly evolving technological landscapes. Research shows that this age group may exhibit distinct perceptions toward AI—ranging from enthusiasm and perceived usefulness to concerns about ethical risks, job displacement, and system reliability (Wong et al., 2025).

Contemporary studies highlight that employee attitudes toward AI adoption can be understood through three major dimensions: Perils (perceived risks), Promises (perceived benefits), and Power (perceived capability of AI systems), as conceptualized by Shum and Lau (2024). High levels of perceived promises are often associated with improved performance, reduced workloads, and enhanced service quality (Huang & Rust, 2021). Conversely, perceived perils stem from fear of surveillance, data breaches, ethical issues, and job insecurity (Gerlich et al., 2023; UNESCO, 2021). Perceived power relates to AI's increasing ability to equal or exceed human performance in routine or analytical tasks (Zhang & Lu, 2023).

Within the Philippine government setting, interest in AI integration has grown, particularly in areas related to administrative processing, public employment services, frontline transactions, and data-driven decision-making. However, empirical studies that directly assess AI utilization among mid-life government employees remain scarce. Understanding their perceptions and utilization patterns is essential because mid-lifers often serve as digital transition leaders and mentors within their organizations.

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Given this context, the present study investigates the utilization of AI tools among mid-lifers in government service. It examines their perceived promises, perils, and power of AI and analyzes whether significant differences exist across demographic characteristics such as gender, work type, employment status, and length of service. This inquiry offers crucial insights into the readiness of the mid-life public workforce to adopt AI technologies, thereby supporting the broader goal of fostering effective and technologically adaptive government institutions.

### OBJECTIVES

This study aimed to determine the significant difference in the utilization of Artificial Intelligence tools among mid-lifers in the government service. Specifically, it aims to: 1) Determine the demographic profile of the respondents. 2) Level of utilization of AI tools among mid-lifers; 3) Significant difference the level of utilization of AI tools among mid-lifers when they are grouped by gender, work, status and length of Service.

### METHODOLOGY

This research constitutes a comparative analysis, a methodical examination that directly compares two or more things to identify their similarities and differences (Jean Kaluza, 2023). The primary aim of the study is to ascertain significant differences in the level of utilization of AI tools among mid-lifers based on their demographic profiles. Data for this study were gathered through an adaptive questionnaire from “Perils, power and promises: Latent profile analysis on the attitudes towards artificial intelligence (AI) among middle-aged and older adults in Hong Kong” (Shum et al., 2024). The study involved 105 respondents from the different government agencies.

The questionnaire comprised two distinct sections. The first section captured demographic characteristics, including gender, work, status and length of service. The second section consisted of 20 items across three indicators. The following statistical tools were used such as mean, t-test, and ANOVA.

### RESULTS AND DISCUSSION

This chapter presents the results of the study, including the descriptive statistics (mean and standard deviation), along with the corresponding interpretations and analyses. Tables are utilized to illustrate the findings, and the discussion of both tabular and graphical data is provided to facilitate clarity and understanding.

#### Demographic Profile

Presented in Table 1 is the demographic profile of the respondents. There were 105 respondents, 52 male and 53 female equivalent 49.5% and 50.5% respectively. Most of the respondent are male. There were 5 respondents occupying teaching position equivalent to 4.8 percent while non-teaching was 100 equivalent to 95.2 percent. Most of the respondents were non-teaching positions. Furthermore, out of 105, 71 or 67.6 percent of the respondents hold a permanent status while 32.4 percent or 34 respondents equivalent to 74.3 percent are non-permanent. Lastly, regarding the length of service, 78 respondents served for less than 10 years, 19 respondents served for 11-20 years while 8 respondents served for over 21 years. Most of the respondents served for less than 10 years.

This finding reflects broader trends observed in public-sector employment in recent years. The nearly equal distribution of male and female respondents aligns with global patterns showing that government institutions are among the most gender-balanced workplaces (OECD, 2023). The predominance of non-teaching and administrative personnel in the sample is consistent with national and international reports indicating that most mid-level government functions are occupied by technical and administrative staff rather than instructional personnel (AP-NORC, 2024). The high proportion of permanent employees likewise mirrors public-sector workforce structures in Southeast Asia, where permanent appointments remain the most common employment status in national government agencies (Asian Development Bank, 2021). Additionally, the large number of respondents with fewer than ten years in service supports findings that many governments have expanded hiring efforts in response to modernization initiatives, digital transformation demands, and evolving public service needs (World Bank, 2024). These demographic patterns correspond with studies noting that mid-lifers often possess diverse lengths of service as government agencies undergo transitions toward more technology-enabled systems (Duck & Ernest 2025).

Indicator	Frequency	Percent
<b>Gender</b>		
Male	52	49.5
Female	53	50.5
<b>Total</b>	<b>105</b>	<b>100</b>
<b>Type of Work</b>		
Teaching	5	4.8
Non-Teaching	100	95.2
<b>Total</b>	<b>105</b>	<b>100</b>
<b>Status</b>		
Permanent	71	67.6
Non-Permanent	34	32.4
<b>Total</b>	<b>105</b>	<b>100</b>
<b>Length of Service</b>		
1-10	78	74.3
11-20	19	18.1
21 above	8	7.6
<b>Total</b>	<b>105</b>	<b>100</b>

Table 1. Demographic Profile

#### Utilization of AI Tools Among Mid-lifers

**Perils.** Presented in Table 2 is the level of AI tools among mid-lifers. For the indicator perils, the respondents revealed moderate level of the means score of 3.40. The mid-lifers claimed that *artificial intelligence is used to spy on people* with the mean score 3.66 or high level. The mid-lifers claimed that they sometimes *shiver with discomfort when they think about future uses of Artificial Intelligence* with mean score of 3.19 or moderate level. Further, data revealed that the mid-lifers claimed that artificial intelligence often takes control of people, threatening, use to spy people and take control of people. They sometimes claim that AI poses danger when thinking about its future uses. Moreover, mid-lifers sometimes think that they will suffer if AI is utilized unethically and that it may sometimes commit frequent errors.

**Promises.** As shown in the table below, mid-lifers often perceive that AI is exciting with a mean score of 3.97 or high level of utilization. While they perceive that for *routine transactions, they would rather interact with an artificially intelligent system than with a human*. The mid-lifers find the idea of AI exciting because it can be used in their current position as it often provides new economic opportunities and provides positive impacts so that the future of society will benefit from AI utilization. Lastly, for routine transactions, mid-lifers would rather interact with an AI system than with a human.

**Power.** As exhibited in the table, the respondents showed a high level of appreciation for the *beneficial applications of AI* with a high level of utilization, and mean score of 4.04. Additionally, mid-lifers often think that AI has the potential to outperform humans in routine jobs and convey their overall impressiveness with what AI can do.

Utilization of AI Tools	SD	Mean	Descriptive Level
<b>Perils</b>	<b>1.02</b>	<b>3.4</b>	<b>Moderate</b>
I think Artificial Intelligence is dangerous.	1.25	3.41	Moderate
Artificial Intelligence might take control of people.	1.22	3.58	High
I find Artificial Intelligence threatening.	1.24	3.5	High
I shiver with discomfort when I think about future uses of Artificial Intelligence.	1.41	3.19	Moderate
People like me will suffer if Artificial Intelligence is used more and more.	1.48	3.28	Moderate
Organizations use Artificial Intelligence unethically.	1.17	3.34	Moderate

Artificial Intelligence is used to spy on people.	1.28	3.66	High
I think artificially intelligent systems make many errors.	1.11	3.24	Moderate
<b>Promises</b>	<b>0.78</b>	<b>3.76</b>	<b>High</b>
Artificially intelligent systems can help people feel happier.	1	3.74	High
I am interested in using artificially intelligent systems in my daily life.	1.12	3.72	High
Artificial Intelligence is exciting.	0.98	3.97	High
Much of society will benefit from a future full of Artificial Intelligence.	0.92	3.86	High
I would like to use Artificial Intelligence in my own job.	0.96	3.84	High
Artificial Intelligence can provide new economic opportunities.	0.95	3.95	High
Artificial Intelligence can have positive impacts on people's wellbeing.	0.98	3.7	High
For routine transactions, I would rather interact with an artificially intelligent system than with a human.	1.21	3.28	Moderate
<b>Power</b>	<b>0.77</b>	<b>3.72</b>	<b>High</b>
There are many beneficial applications of Artificial Intelligence.	0.89	4.04	High
An artificially intelligent agent would be better than an employee in many routine jobs.	1.06	3.54	High
Artificial Intelligent systems can perform better than humans.	1.22	3.56	High
I am impressed by what Artificial Intelligence can do.	1.1	3.72	High

*Table 2. Level of Utilization of AI Tools Among Mid-lifers*

The patterns observed in the respondents' perceptions of AI, particularly the moderate concerns related to perils and the strong acknowledgment of promises and power are consistent with recent empirical research. Several studies show that individuals, especially mid-career and older workers, frequently express caution about AI due to perceived risks such as surveillance, data misuse, algorithmic errors, and loss of control (Gerlich et al., 2023; UNESCO, 2021). These concerns mirror the respondents' moderate agreement that AI can be threatening, may commit errors, and could lead to unethical applications if not properly regulated. At the same time, literature from 2020 to 2025 highlights that workers also recognize the substantial benefits of AI, including efficiency gains, improved public service delivery, and enhanced job performance (Huang & Rust, 2021; Wong et al., 2025). This supports the high mean scores in the Promises construct, where mid-lifers view AI as exciting, helpful for routine tasks, and capable of creating economic and organizational value. Furthermore, the strong agreement under the Power construct aligns with global findings demonstrating that employees increasingly believe AI can outperform humans in routine and repetitive functions due to its analytical and computational strengths (Zhang & Lu, 2023). Overall, these studies validate the respondents' mixed but generally positive attitudes toward AI, reflecting both cautious optimism and recognition of AI's expanding role in government work.

#### Utilization of AI Tools when Grouped by Gender

**Perils.** Presented in Table 3 is the non-significant difference in the level of utilization of AI tools among mid-lifers when they are grouped in gender. The mid-lifers manifested non-significant difference as the indicator perils reflected in the t-value of 0.79 with the p-value of 0.43 which is less than 0.05 level of significance. The result is not significant and the acceptance of the null hypothesis. This implies that male and female manifested equal perception as to the utilization of AI tools along this indicator.

**Promises.** As shown in the table, mid-lifers disclosed non-significant differences on the construct promise which then showed a t-value of 1.64 with the p-value of 0.10 which is less than 0.05 level of significance. The result is not significant hence the null hypothesis is accepted. This infers that male and female mid-lifers, showed equal levels of perception towards the utilization of AI for the indicator of promises.

**Power.** Indicated in the table, mid-lifers conveyed non-significant difference on the construct power which showed a t-value of 0.69 with the p-value of 0.49 which is lesser than 0.05 level of significance. The result is not significant thus the null hypothesis is accepted. This indicates that male and female mid-lifers, showed equal levels of perception towards the utilization of AI for the indicator of power.

Utilization of AI Tools	Male	Female	t-value	p-value	Decision on H0
Perils	3.48	3.32	0.79	0.43	Accept
Promises	3.88	3.63	1.64	0.10	Accept
Power	3.77	3.67	0.69	0.49	Accept

**Table 3. Significant Difference in the Level of Utilization of AI Tools when Grouped by Gender**

No significant differences were found across all constructs, suggesting similar AI perceptions among male and female mid-lifers consistent with global findings (Zou & Schiebinger, 2022).

#### Utilization of AI Tools when Grouped by Work

**Perils.** Presented in Table 4 is the non-significant difference in the level of utilization of AI tools among mid-lifers when they are grouped by work. The mid-lifers manifested non-significant difference as the indicator perils reflected in the t-value of 0.34 with the p-value of 0.70 which is less than 0.05 level of significance. The result is not significant and the acceptance of the null hypothesis. This implies that male and female manifested equal perception as to the utilization of AI tools along this indicator.

**Promises.** As shown in the table, mid-lifers disclosed non-significant differences on the construct promise which showed a t-value of 1.61 with the p-value of 0.11 which is lesser than 0.05 level of significance. The result is not significant hence the null hypothesis is accepted. This implies that male and female mid-lifers, showed equal levels of perception towards the utilization of AI for the indicator of promises.

**Power.** Lastly, mid-lifers conveyed non-significant differences on the construct power which then showed a t-value of -1.59 with the p-value of 0.12 which is lesser than 0.05 level of significance. The result is not significant; therefore, the null hypothesis is accepted. This implies that male and female mid-lifers, showed equal levels of perception towards the utilization of AI for the indicator of power.

Utilization of AI Tools	Teaching	Non-Teaching	t-value	p-value	Decision on H0
Perils	3.58	3.39	0.34	0.70	Accept
Promises	4.30	3.73	1.61	0.11	Accept
Power	4.25	3.69	1.59	0.12	Accept

**Table 4. Significant Difference in the Level of Utilization of AI Tools when Grouped by Work**

#### Utilization of AI Tools when Grouped by Status

**Perils.** Disclosed in Table 5 is the significant difference in the level of utilization of AI tools among mid-lifers when they are grouped by status as shown in the t-value of 3.07 with a p-value of .000 which is lesser than 0.05 level of significance. The result is significant and the rejection of the null hypothesis. This implies that mid-lifers having permanent status showed higher level of utilization of AI tools compared to non-permanent status. The findings support the study of (Duck & Ernest 2025) as AI tools usage enhances employees' work performance in key areas and it reduced burnout and lowered turnover rates.

**Promises.** As shown in the table, mid-lifers disclosed non-significant differences on the construct promise which showed a t-value of 1.14 with the p-value of 0.26 which is less than 0.05 level of significance. The result is not significant hence the null hypothesis is accepted. This implies that mid-lifers having permanent and non-permanent status, displayed equal level of perception towards the utilization of AI along with this indicator.

**Power.** Mid-lifers conveyed non-significant difference in the construct power which then showed a t-value of 1.94 with the p-value of 0.06 which is lesser than 0.05 level of significance. The result is not significant therefore the null hypothesis is accepted. This implies that mid-lifers occupying permanent and non-permanent positions showed equal level of perception towards the utilization of AI for this indicator.

Utilization of AI Tools	Permanent	Non-Permanent	t-value	p-value	Decision on H0
Perils	3.61	2.98	3.07	0.00	Reject
Promises	3.82	0.82	1.14	0.26	Accept
Power	3.82	0.83	1.94	0.06	Accept

**Table 5. Significant Difference in the Level of Utilization of AI Tools when Grouped by Status**

#### Utilization of AI Tools when Grouped by Length

**Perils.** Presented in Table 6 is the non-significant difference in the level of utilization of AI tools among mid-lifers as classified by work. The mid-lifers manifested non-significant difference as the indicator perils reflected in the f-value of 1.85 with the p-value of 0.162 which is lesser than 0.05 level of significance. The result is not significant and the acceptance of the null hypothesis. This implies that male and female manifested equal perception as to the utilization of AI tools along this indicator of perils.

**Promises.** Furthermore, mid-lifers disclosed non-significant differences on the construct promise which then showed a f-value of 0.524 with the p-value of 0.594 which is lesser than 0.05 level of significance. The result is not significant hence the null hypothesis is accepted. This implies that male and female mid-lifers, showed equal levels of perception towards the utilization of AI for the indicator of promises.

**Power.** Finally, mid-lifers conveyed non-significant difference on the construct power which then showed a f-value of 1.34 with the p-value of 0.27 which is lesser than 0.05 level of significance. The result is not significant hence the null hypothesis is accepted. This implies that male and female mid-lifers, showed equal levels of perception towards the utilization of AI for the indicator of power.

Utilization of AI Tools	1-10	11-20	21-above	F-value	p-value	Decision on H0
Perils	3.30	3.80	3.46	1.85	0.162	Accept
Promises	3.72	3.83	3.99	0.524	0.594	Accept
Power	3.64	3.92	3.94	1.34	0.267	Accept

**Table 6. Significant Difference in the Level of Utilization of AI Tools when Grouped by Length of Service**

### CONCLUSION

Overall, mid-lifers in government service demonstrate a generally positive perception of AI tools, especially in terms of their usefulness, efficiency, and capacity to enhance organizational performance. This aligns with global findings that public-sector employees recognize AI's potential to streamline administrative processes and improve decision-making (World Bank, 2024; Wong et al., 2025). Although concerns about risks such as privacy issues, algorithmic errors, and ethical misuse remain moderate, these apprehensions are common among mid-career workers who are adapting to rapid technological changes (Gerlich et al., 2023). The minimal differences across demographic categories suggest that attitudes toward AI among mid-lifers are relatively consistent, indicating a generally receptive workforce capable of supporting digital governance initiatives. However, the significant variation observed among permanent employees implies that those with long-term roles may feel more accountable for potential consequences of AI misuse and thus express heightened caution. Studies show that permanent staff often perceive greater institutional responsibility and therefore require more structured guidance in navigating emerging technologies (Duck & Ernest 2025). These findings underscore the need for continuous AI-related capacity-building programs that emphasize not only technical skills but also responsible, ethical, and transparent use of AI tools, as recommended by (UNESCO, 2021) and (OECD, 2023). By addressing both confidence and concerns, government agencies can better prepare their mid-life workforce to engage with AI innovations effectively and responsibly.

### RECOMMENDATION

Based on the findings of the study and supported by recent research on public-sector AI adoption, the following recommendations are proposed:

**1. Strengthen AI Literacy and Skills Training for Government Mid-Lifers.**

Given that mid-lifers demonstrated strong interest in the benefits and capabilities of AI, government agencies should institutionalize regular capacity-building programs that focus on practical AI usage, data literacy, and integration into administrative workflows. Studies show that AI adoption is significantly higher when employees receive structured training and organizational support (Wong et al., 2025; World Bank, 2024). Training should include hands-on sessions involving tools already used in public offices, such as automated text generators, data analytics platforms, and AI-driven public service applications.

**2. Implement Ethical and Responsible AI Use Workshops.**

Because moderate concerns about AI-related risks were observed, it is recommended that agencies incorporate ethics-focused training that addresses algorithmic bias, data privacy, transparency, and responsible use of automated systems. UNESCO (2021) emphasizes that public-sector workers must be trained to understand the ethical implications of AI, while OECD (2023) stresses the importance of ethical governance frameworks. Workshops should include real-world case examples to help employees make informed decisions when using AI tools.

**3. Provide Targeted Support for Permanent Employees Showing Higher Perceived Risks.**

Permanent employees exhibited significantly higher concerns under the “Perils” construct. This indicates a need for targeted interventions that address their elevated sense of responsibility and accountability. According to (Duck & Ernest 2025), employees with longer tenure or permanent roles tend to be more cautious toward digital innovations due to concerns about long-term job implications and institutional risks. Tailored mentoring, coaching, and open dialogues on AI governance can help reduce apprehensions.

**4. Institutionalize Clear AI Governance Policies Across Government Agencies.**

To address concerns about surveillance, misuse, and algorithmic errors, agencies should develop or adopt standardized AI governance guidelines. These may include protocols on data privacy, transparency, accountability, and human oversight. Global frameworks such as UNESCO's Recommendation on the Ethics of Artificial Intelligence (2021) and OECD's AI Principles (2023) can serve as templates for local policy formulation.

**5. Promote a Culture of Human - AI Collaboration.**

Since mid-lifers already perceive AI as useful and capable, agencies should encourage work models that highlight AI as a supportive tool rather than a replacement for human workers. Research shows that workers adapt more positively when AI is framed as a collaborative system that enhances human decision-making rather than replacing roles (Gerlich et al., 2023; Huang & Rust, 2021). Leadership communication should reinforce this perspective to build trust and confidence in AI technologies.

**6. Conduct Continuous Monitoring and Evaluation of AI Utilization in Government Service.**

To ensure effective adoption, agencies should regularly assess how AI tools are used, identify challenges, and gather feedback from employees. Continuous evaluation helps align AI initiatives with organizational goals and workforce needs, as recommended by the World Bank (2024) and AP-NORC (2024). This monitoring can guide future policy adjustments and training programs.

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