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Readiness for Artificial Intelligence Integration in Government Services: Perspectives from Ramechhap District Employees

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ABSTRACT

The study aimed to investigate the perception of government services employees regarding the future perspective of AI in government services and to compare the perspectives between federal and local level employees. Research adopted objectivity methods to explore the result. Data collected from federal and local government employees in Ramechhap District, Bagmati Province of Nepal. The study revealed insights into the perception of government services employees regarding AI in government services, indicating a moderate belief in AI's potential to enhance job efficiency and a cautious optimism towards AI integration within organizations. Respondents recognized the importance of investing in AI infrastructure and training, foreseeing changes in daily tasks and increased AI usage in service tasks. Anticipation of new HR roles and a demand for flexible virtual work setups was also noted. The ANOVA results comparing federal and local level employees' perspectives on AI in government services showed no significant difference between the two groups, suggesting that the variation in perspectives was not statistically significant. This research provides valuable insights into the perceptions and expectations of government services employees regarding AI adoption and its potential impact on future work environments

INTRODUCTION

Artificial Intelligence (AI) refers to the simulation of human intelligence processes by machines, particularly computer systems (Katara & Kumawat, 2023). Artificial intelligence (AI) is an area of computer science that focuses on developing intelligent machines (G, et al., 2023). These machines don't necessarily think exactly like humans, but they can learn, solve problems, and perform tasks that typically involve some level of thinking (Huang & Peissl, 2023). AI encompasses a variety of approaches, including artificial neural networks that approximate the human brain to complex algorithm programming (Linardatos, Papastefanopoulos, & Kotsiantis, 2021). AI has a profound impact on the manufacturing, agriculture, and service sectors. AI technologies like robotics, machine learning, and computer vision are transforming manufacturing processes by increasing efficiency, improving quality control, and enabling predictive maintenance (Hussain & Pangilinan, 2023). AI-powered systems can optimize production schedules, cut downtime, and boost overall productivity (Soori, Arezoo, & Dastres, 2023). AI is transforming traditional agricultural practices by enabling precision agriculture techniques (Alazzai, Abood, Al-Jawahry, & Obaid, 2024). AI algorithms analyse data from sensors, drones, and satellites to provide information about crop health, soil conditions, and weather patterns (Alahmad, Neményi, & Nyéki, 2023). This data-driven approach enables farmers to make informed decisions about irrigation, fertilisation, and pest control, resulting in increased yields and more sustainable farming practices (Korneeva, Alamanova, Orozonova, Parmanasova, & Krayneva, 2023). AI is improving customer experiences in the service industry by utilizing chatbots, virtual assistants, and personalized recommendations (Dang & Nguyen, 2023). AI-powered systems can analyse customer data to provide personalized services, streamline operations, and automate repetitive tasks (Haleem, Javaid, Qadri, Singh, & Suman, 2022).

Globally, increasing utilization of Artificial Intelligence (AI) in government is creating a multitude of opportunities for governments across the globe. The incorporation of AI technology in government processes and public-sector ecosystems can lead to rapid changes in traditional modes of service provision, policy-making, and enforcement (Zuiderwijk, Chen, & Salem, 2021). The U.S. government has made substantial progress in the field of artificial intelligence (AI) by putting in place measures to guarantee the responsible and ethical utilization of AI (Cath, Wachter, Mittelstadt, Taddeo, & Floridi, 2018). President Joe Biden signed an executive order specifically targeting AI safeguards in order to ensure the protection of the public interest (The white house, 2023). Japan has taken the lead in making AI laws and starting AI projects. The country has put out a number of strategies and rules for AI technology, with a focus on its responsible growth, use, and management (Nitta & Satoh, 2020). China has actively participated in determining the future of AI. The country has produced policy documents defining strategic priorities for achieving ethical and legal consensus on AI among its citizens and around the globe (Roberts, Cowls, Morley, Taddeo, Wang, & Floridi, 2021). In the 2018/19 budget, the Australian government allocated more than AUD 28 million (USD 21 million) to create capabilities and support responsible AI development in Australia (Choudary, 2024). Canada is aiming to establish itself as an AI pioneer, particularly with the Pan-Canadian AI Strategy, released in March 2017 (Brandusescu, 2021). India announced their AI strategy in June 2018. The strategy makes proposals for India to become a leader in AI by enhancing human capabilities while guaranteeing social and inclusive prosperity (Chatterjee, 2020).

In the rapid adoption of AI across government organizations, understanding the future prospects of AI in Nepal's government service sectors is crucial. As AI technology continues to evolve, its integration in government services can enhance efficiency, transparency, and citizen engagement. Anticipating the future role of AI in Nepal's public sector can help policymakers make informed decisions on resource allocation and strategic planning. Monitoring and

forecasting the course of AI in government sectors is essential for maximizing the benefits and addressing any challenges that may arise in the evolving landscape of technology integration.

Objective

To identify the perception of government services employees regarding future perceptive of AI in government service

To measure the different between federal and local level employees on future perceptive of AI in government service

Hypothesis

There is no significance different between federal and local level employees on future perceptive of AI in government service.

METHODS

The study adopted a cross-sectional time horizon and employed a descriptive research design method. It is quantitative in nature. Fifty questionnaires were distributed in Ramechhap District, Bagmati Province of Nepal, targeting both local and federal government employees. However, only 37 questionnaires were analyzed after deducting errors and missing questionnaires. A Likert 5-point scale questionnaire was developed to test the reliability, and the Cronbach's alpha test yielded a result of 83.7%, indicating acceptable reliability. SPSS version 26 was used for data analysis, employing both descriptive and inferential statistical tools. Prior consent was obtained from participants, and their participation was voluntary. Additionally, language translation and back-translation were conducted to ensure clarity of the questionnaire.

RESULTS AND DISCUSSION

Result section display the outcome of data in three part first demographic information; second the perception of government employee on future perspective on AI and third federal and local level employees on future perceptive of AI in government service.

Demographic Information

The data presented reveals the educational background, job postings, job levels, gender distribution, work experience, and age range of the individuals surveyed.

In terms of education level, a significant portion holds Bachelor's degrees (48.6%) and Master's degrees (45.9%), with a smaller percentage falling under the "Other" category (5.4%). Job

Table 1. Demographic Information

S.N	Education				
01.00		Frequency		Percent	
	Bachelor	18		48.06.00	
	Master	17		45.09.00	
	Other	2		05.04	
	Total	37		100.00.00	
2	Job Post In				
		Frequency		Percent	
	Local Level	7		18.09	
	Federal Level	30		81.01.00	
	Total	37		100.00.00	
3	Job level				
		Frequency		Percent	
	Gazetted	10		27.00.00	
	Non-Gazetted	23		62.02.00	
	Other	4		10.08	
	Total	37		100.00.00	
4	Gender				
		Frequency		Percent	
	Female	11		29.07.00	
	Male	26		70.03.00	
	Total	37		100.00.00	
Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Work Experience	37	01.00	25.00.00	78.919	479.458
Age	37	23.00	48.00.00	339.459	584.021

Source: Survey

Postings are predominantly at the Federal level (81.1%) compared to the Local level (18.9%). Job levels vary, with a notable percentage at Level 10 (27.0%) and a majority categorized as Non-Gazetted (62.2%). Gender distribution shows a higher representation of males (70.3%) compared to females (29.7%). Descriptive statistics indicate a range of work experience from 1 to 25 years, with an average of 7.8919 years and a standard deviation of 4.79458 years. The age range spans from 23 to 48 years, with an average age of 33.9459 years and a standard deviation of 5.84021 years. This comprehensive data provides valuable insights into the demographics and characteristics of the surveyed individuals.

Perception of government services employees regarding future perceptive of AI in government service

An assessment of the future role of artificial intelligence (AI) in government services was made by questioning government employees. In order to assess these perceptions, the study used mean scores. The study aimed to understand the perspectives of government employees regarding the introduction of artificial intelligence (AI) in their workplace and its possible influence on their job duties. In order to identify patterns and trends in the attitudes of employees on the use of AI in government services, the study analysed mean scores.

Table 2. Employee Perception

Factors	N	Minimum	Maximum	Mean	Std. Deviation
AI can enhance the efficiency of Job	37	2.00	5.00	3.6757	.70923
How extensively do you foresee AI integration in your organization within the next five years?	37	1.00	5.00	3.1892	.96718
Investing in AI infrastructure and training is essential	37	3.00	5.00	4.0270	.55209
AI will change the way daily tasks.	37	2.00	5.00	3.7568	.64141
Foresee more AI usage in service tasks?	37	1.00	5.00	4.0000	.78174
Unique human resource skills will be demand.	37	2.00	5.00	3.5946	.79790
AI improve job performance	37	2.00	5.00	3.4324	.76524
Do you predict the emergence of new HR roles due to AI?	37	3.00	5.00	3.8108	.56949
In the future, greater demand for flexible virtual work?	37	3.00	5.00	3.9459	.70498

Source: Survey

Government services employees' perceptions of AI in government services show significant trends. On average, respondents indicated a moderate level of belief in AI's potential to enhance job efficiency (Mean = 3.68, SD = 0.71). Similarly, they foresee a moderate integration of AI within their organizations in the next five years (Mean = 3.19, SD = 0.97), indicating cautious optimism about AI adoption. The belief in the essentiality of investing in AI infrastructure and training is notably high (Mean = 4.03, SD = 0.55), suggesting recognition of the importance of preparing for AI implementation. Moreover, respondents generally agree that AI will influence how employees carry out their daily tasks (Mean = 3.76, SD = 0.64) and anticipate increased AI usage in service tasks (Mean = 4.00, SD = 0.78), indicating readiness to embrace AI-driven changes. Additionally, there is acknowledgment of the likelihood of higher demand for unique human resource skills in the future (Mean = 3.59, SD = 0.80), highlighting awareness of evolving workforce needs.

The perspectives of federal and local government employees on the potential application of AI in government services were compared in a study. It aimed to identify any differences in their perspectives on the integration of AI and how it will affect their individual jobs and responsibilities. This study illuminates possible differences in perspectives regarding the deployment of AI between federal and local government employees.

Table 3. Comparison of Federal and Local Level Employee on AI Future Perceptive

ANOVA					
future					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.264	1	.264	1.307	.261
Within Groups	7.082	35	.202		
Total	7.347	36			

Source: Survey

Furthermore, respondents express a moderate level of belief that AI will enhance job performance without replacing jobs (Mean = 3.43, SD = 0.77), indicating cautious optimism about the coexistence of AI and human workers. They also foresee the emergence of new HR roles due to AI (Mean = 3.81, SD = 0.57), suggesting anticipation of evolving job landscapes in HR. Lastly, respondents expect a significant demand for flexible virtual work arrangements in the future (Mean = 3.95, SD = 0.70), underscoring the expectation for adaptive work environments.

Comparison of Federal and local level employees on future perceptive of AI in government service

The perspectives of federal and local government employees on the potential application of AI in government services were compared in a study. It aimed to identify any differences in their perspectives on the integration of AI and how it will affect their individual jobs and responsibilities. This study illuminates possible differences in perspectives regarding the deployment of AI between federal and local government employees.

The ANOVA results comparing the perspectives of federal and local level employees on the future perception of AI in government services indicate no significant difference between the two groups (F= 1.307, p = .261). The sum of squares between groups is 0.264, the sum of squares within groups is 7.082, and the total sum of squares is 7.347. This suggests that the variation between federal and local level employees' perspectives on AI in government services is not statistically significant.

CONCLUSION

This study reveals government service employees' positive outlook on AI integration. Their diverse backgrounds shape their perceptions. Despite organizational level, a shared optimism exists regarding AI's potential to improve efficiency and drive change. Notably, federal and local employees share similar views. These findings suggest receptiveness to AI. Future research could research deeper into specific strategies for implementing AI in government services and assess their impact on job performance and organizational effectiveness.

Government agencies should develop comprehensive strategies for AI adoption, including investments in infrastructure, training programs, and ethical guidelines to ensure responsible AI use.

Organizations should foster a culture of innovation and encourage employees to embrace AI technologies by providing training opportunities, promoting knowledge sharing, and recognizing innovative practices.

Governments should enhance collaboration between federal and local levels to facilitate knowledge sharing and best practice exchange in AI

adoption. This could involve establishing cross-functional teams, sharing resources, and coordinating initiatives to promote uniformity in AI implementation across different government agencies.

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