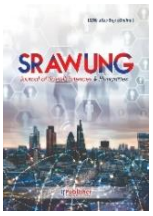

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Analyzing the Impact of Artificial Intelligence on Job Roles, Skills Requirements, and Employment Patterns

A Quantitative Study of Various Industries in Phnom Penh, Cambodia

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ABSTRACT

This study explores effects of artificial intelligence (AI) on Cambodia's workforce as AI becomes increasingly prevalent in work and education. Concerned about potential job displacement, the research investigates how AI is changing job roles, required skills, and employment patterns across various Cambodian industries. Using a quantitative approach, the study surveyed 435 individuals from different sectors and analyzed the data through simple and multivariate regressions. The findings indicate a strong link between AI and workforce dynamics. Specifically, task characteristics, specialized AI domain knowledge, and AI-driven information processing positively influence workforce changes. Interestingly, general AI skills and knowledge did not show a significant impact. Supplementing the quantitative data, interviews with key individuals offered insights into future of AI in employment, raising worries about job losses, data privacy issues, and unequal access. However, interviewees also acknowledged AI's potential to boost productivity and benefit both employers and employees through ethical implementation, reskilling initiatives, and collaborative approaches. The study concludes by recommending that businesses invest in strategic AI integration, specialized training, talent acquisition, and job redesign to effectively leverage the transformative power of AI.

Keywords: *Artificial Intelligence, Employment Patterns, Job Roles*

INTRODUCTION

Artificial intelligence (AI) refers to systems that can receive information, learn from it, and apply that knowledge to produce results and achieve goals (Kaplan & Haenlein, 2020). Creative AI can generate a wide range of content, including textual text, photos, videos, and audio. Artificial intelligence (AI), exemplified by tools like ChatGPT, is revolutionizing various sectors. It's making a difference in healthcare by assisting with diagnoses, in finance by automating fraud detection and offering tailored advice, in retail by enhancing customer experiences, in education by facilitating personalized learning, in human resources by streamlining workflows, and in customer service by powering chatbots and virtual assistants that address complex questions, thereby lightening the load on human agents. These illustrations underscore AIs varied and transformative capacity across industries (George et al., 2023).

AI has many benefits, including the potential to significantly boost productivity across industries. By 2023, yearly worldwide productivity could increase by 0.2% to 3.3% thanks to AI (The Economic Potential of Generative AI: The Next Productivity Frontier, 2023). AI can also personalize training, which is crucial for many job roles (Chen, 2023). Despite AI's capabilities, jobs requiring strong interpersonal skills and in-person interaction will remain important. Frey & Osborne (2023) have raised arguments about AI's impact over the last 10 years have largely fallen into two camps: those who fear widespread job losses due to automation, and those who believe AI will boost productivity and generate new employment opportunities. AI's influence on the workforce is complex, encompassing job displacement, job enhancement, and the creation of entirely new roles. Looking ahead, a significant portion of businesses worldwide anticipate AI to be a driver of job growth in the coming years.

By 2027, the fastest-growing job categories is being AI and Machine Learning Specialists (Jobs of Tomorrow: Large Language Models and Jobs, 2023). The rise of AI is not only increasing the demand for existing occupations; it is also driving the creation of entirely new career lines. Consider occupations such as prompt engineers, AI model developers, data trainers, and AI governance and ethics experts, which will emerge as AI becomes more prominent. Artificial intelligence is changing industries, requiring us to adapt and learn new skills. This means we need both technical AI knowledge and human skills like critical thinking and communication. While AI might cause job changes and ethical problems, like biased algorithms, we can solve these issues. To succeed in this changing world, we need to keep learning, be open to new ideas, and create ethical rules for using AI (Jobs of Tomorrow: Large Language Models and Jobs, 2023).

This study looks into the multiple effects of AI on the modern workplace, focusing on how it affects job positions, the changing skills required of workers, and the ensuing changes in employment trends across industries.

LITERATURE REVIEW

Kaplan & Haenlein (2020) describe AI as the creation of learning and adaptive systems. These systems gather and utilize data to achieve objectives. They are sometimes called "agents" and react to their environment. Russell (2022) defines AI as machine-based systems that use data to produce outputs like predictions, content, recommendations, or decisions. Analyzing the system's goals is crucial to understanding its benefits (Kaplan & Haenlein, 2020).

The study by Babu et al. (2024) have explored the multifaceted influences of AI on the modern at work place. It examines how AI is reshaping various aspects of work, from boosting productivity and fostering new forms of collaboration to potentially altering job roles and influencing strategic decision-making. The research also considers the broader societal and economic implications of AI adoption, acknowledging both the potential advantages and the challenges that arise with its integration.

Franken & Wattenberg (2019) have explored the significant influence of AI on automated labors, particularly the disruptive potential of technologies like robots and automated systems. AI has a tremendous impact on algorithms, human work, and organizational structures in industries such as manufacturing and management. Lima (2021) investigates how to collaboratively analyze the effects of AI and automation on jobs. Two prospective models are provided, using a flexible Design Science Research approach. One model uses crowdsourced data to gain a deep understanding of how automation affects specific job roles. The other model uses collaborative software to facilitate a shared understanding of the effects of various technologies within a specific organization (Franken & Wattenberg, 2019). Imagine AI acting autonomously, assisting people with tasks, optimizing resource use, and proposing new working models.

AI-Enabled Technologies and Creativity

Artificial intelligence (AI) is quickly changing the world, with applications like chatbots and self-driving cars becoming increasingly common. By 2022, it was estimated that AI would be responsible for creating over 50 million jobs worldwide. This technology is powered by machine intelligence, enabling computers to perceive, reason, and adapt to their environment. AI is a crucial part of digital strategies, incorporating natural language processing, big data, and intelligent forecasting. To successfully innovate with AI, businesses need to adapt to their specific operating environments and information ecosystems and AI boosts employee productivity by providing real-time process monitoring and management, enabling adaptation to dynamic and unpredictable situations, and fostering new forms of human-machine interaction (Kaplan & Haenlein, 2020). Garcia Martinez (2017) highlights the need for specialized skills in AI-related jobs, including creative thinking, collaboration, communication, and analytical abilities.

Powered by AI Learning Dimensions

AI can play a key role in fostering innovation by providing high-tech professionals with support for AI applications, algorithms, and analytical methods (Dwivedi et al., 2021). With this, experts have more time to come up with new ideas and solutions that are based on what they know.

Dwivedi et al. (2021) also suggest that AI-supported performance (AI-Sp) demonstrates a high level of technical knowledge and analytical skills in these professionals, leading to greater innovative behavior compared to those in routine roles. AI-enabled work involves intellectual property and cognitive decision-making, differentiating it from traditional work through its focus on data monitoring, processing, mechanization, and automation (Belanche et al., 2019; Dwivedi et al., 2021).

The Impact of AI which is Enabled Job Characteristics

Employee creativity is a key driver of Innovative Work Behavior (IWB), which in turn leads to improved processes, products, and procedures (Saether, 2019). A critical component of successful innovation is organizational support for implementing new ideas (Kör et al., 2021). IWB has been a subject of study by researchers like Saether (2019) and Shanker et al. (2017) to gain a deeper comprehension of organizational innovation.1

In today's competitive landscape, many high-tech companies prioritize boosting employee IWB for survival and success. Companies that value innovation often flourish (Shanker et al., 2017). According to resource and capability theory, these companies require unique technological capabilities, such as AI, to cultivate IWB and establish a competitive edge (Miao, 2020). Furthermore, job design plays a significant role in influencing creative work behavior within high-tech organizations (Waschull et al., 2020).

Current research highlights the link between technological employment factors and IWB, identifying it as an important area of study for both researchers and practitioners. By the way, Dwivedi et al. (2021) have noted a lack of sciential research investigating how AI job design can promote Innovative Work Behavior among high-tech professionals. AI-enabled work has various characteristics that can psychologically affect an employee's capacity for innovation. Fan et al. (2020) propose that variations in Innovative Work Behavior across high-tech companies may be due to employee perceptions of specific aspects of AI-enabled jobs.

AI-Enabled Job Aspects

Joint Attention (JA) can improve employee performance, decision-making regarding processes, and tool selection. AI-driven JA shifts work processes from intuition and guesswork to a more data-driven and analytical approach (Jarrahi, 2018). Verma & Singh (2022) and Babu et al. (2024) proposed AI-based task characteristics, including AI Job Autonomy (the AI's capacity for independent task

completion), AI Job Complexity (the cognitive demands of the AI's knowledge-based tasks), AI Specialization (the breadth and depth of the AI's knowledge), and AI Information Processing as detailed in Table 1.

Table 1. Artificial Intelligence Constructs

Code	Description
ATC	**AI-based Task Characteristics**
ATC1	"The AI system can effectively complete tasks without needing human intervention."
ATC 2	"I am confident in the AI's ability to handle its assigned tasks independently."
ATC 3	"The AI requires minimal supervision to perform its job duties."
ATC 4	"The AI is capable of making decisions and taking actions on its own."
ATC 5	"The AI can adapt to changing circumstances and complete tasks without needing constant guidance."
ASV	**AI Skill Variety**
ASV 1	"The AI utilizes a wide range of skills to complete its tasks.
ASV 2	"The AI is capable of performing diverse and varied activities."
ASV 3	"The AI's tasks require it to use a broad set of abilities."
ASV 4	"The AI can handle tasks that involve different types of knowledge and expertise."
ASV 5	"The AI's job requires it to adapt and learn new skills to address different challenges."
AKC	**AI-based Knowledge Characteristics**
AKC 1	"The AI system's tasks require it to handle a wide range of interconnected knowledge domains."
AKC 2	"The AI system's tasks involve dealing with ambiguous or incomplete information."
AKC 3	"The AI system's tasks demand complex reasoning and inference based on its knowledge."
AKC 4	"The AI system's tasks necessitate adapting its knowledge to novel or unforeseen situations."
AKC 5	"The AI system's tasks require it to evaluate and prioritize conflicting information or knowledge."
AS	**AI Specialization**
AS 1	"The AI system possesses highly specialized knowledge within a specific domain."
AS 2	"The AI system's knowledge is primarily focused on a narrow area of expertise."
AS 3	"The AI system's knowledge base is extensive and detailed within its area of specialization."

AS 4	"The AI system can effectively apply its knowledge to tasks within its specialized domain."
AS 5	"The AI system's knowledge is primarily applicable to a limited set of problems or tasks."
AIP	**AI Information Processing**
AIP 1	"The AI system can efficiently process large volumes of information relevant to its tasks."
AIP 2	"The AI system can effectively integrate information from multiple sources to inform its tasks."
AIP 3	"The AI system can accurately identify patterns and relationships within the information it processes."
AIP 4	"The AI system can adapt its information processing strategies based on the demands of the task."
AIP 5	"The AI system can effectively utilize its processed information to make decisions or solve problems."

Source: Babu et al. (2024); Verma & Singh (2022)

Job Roles, Skills Requirements, and Employment Patterns

Cramarenco et al. (2023) observed a surge in AI adoption by businesses, caused by the COVID-19 disease and stressed the importance of upskilling and reskilling workforce to meet these changes. Du (2024) investigated the specific ways AI is reshaping work, including the evolution of job roles, the skills required for success in these new roles, and the necessity of lifelong learning and ethical considerations. Du's research also examines how AI is transforming workplaces by automating existing roles, creating new ones, and redefining current occupations. The study highlights the increasing need for workers to possess a blend of technical skills, interpersonal abilities, and cross-disciplinary knowledge.

Furthermore, Manyika (2017) pointed out that the growth of AI is not only automating tasks but also generating new employment opportunities. The increasing reliance on AI by businesses is driving demand for specialized AI professionals, such as AI ethics specialists, data scientists, and AI trainers, who are essential for the development, implementation, and upkeep of AI systems.

Table 2. Workforce Dynamics Constructs

Code	Description
JR	**Job Roles**
JR 1	"I believe AI is automating many of the routine tasks in my current job."
JR 2	"I am concerned that AI will lead to significant job displacement in the future."
JR 3	"I believe that developing AI-related skills is essential for my future career success."
JR 4	"My company is adequately preparing me to work alongside AI technologies."
JR 5	"I believe that AI will ultimately have a positive impact on the future of work, despite the challenges."

JR 6	"I am actively seeking to improve my AI-related skills through training or education."
JR 7	"I believe that human-AI collaboration will be crucial for future job success, rather than AI completely replacing human workers."
JR 8	"I am concerned about the ethical implications of AI in the workplace, such as bias and privacy."
SR	**Skills Requirements**
SR 1	"My current job requires me to use a variety of digital devices and software applications."
SR 2	"My employer expects me to learn and adapt to new technologies quickly."
SR 3	"Troubleshooting technical issues is a necessary part of my job."
SR 4	"My job requires me to have some knowledge of programming or coding."
SR 5	"I am expected to find and evaluate reliable information online as part of my job duties."
SR 6	"My job requires me to communicate and collaborate effectively with others using digital tools."
SR 7	"I am expected to create and share digital content as part of my job responsibilities."
SR 8	"My employer emphasizes the importance of understanding ethical and legal considerations related to the use of digital technologies."
EP	**Employment Patterns**
EP 1	"My ability to use a variety of digital devices and software applications has positively impacted my employment opportunities."
EP 2	"My ability to quickly learn new technologies has helped me advance in my career."
EP 3	"Strong digital skills have been important for finding and securing my current job."
EP 4	"My digital skills have helped me to increase my productivity and efficiency at work."
EP 5	"Digital skills have become increasingly important for career success in my field."
EP 6	"I believe that strong digital skills are essential for future job security."
EP 7	"My ability to use digital tools for communication and collaboration has improved my career prospects."
EP 8	"I believe that my digital skills have made me a more valuable asset to my employer."

Source: Cramarenco et al. (2023); Du (2024)

Hypothesis Development

H_1: Artificial Intelligence is positively significant on Workforce Dynamics.

H_2: AI-based Task Characteristics are positively significant on Workforce Dynamics.

H_3: AI-based Knowledge Characteristics are positively significant on Workforce Dynamics.

RESEARCH METHODOLOGY

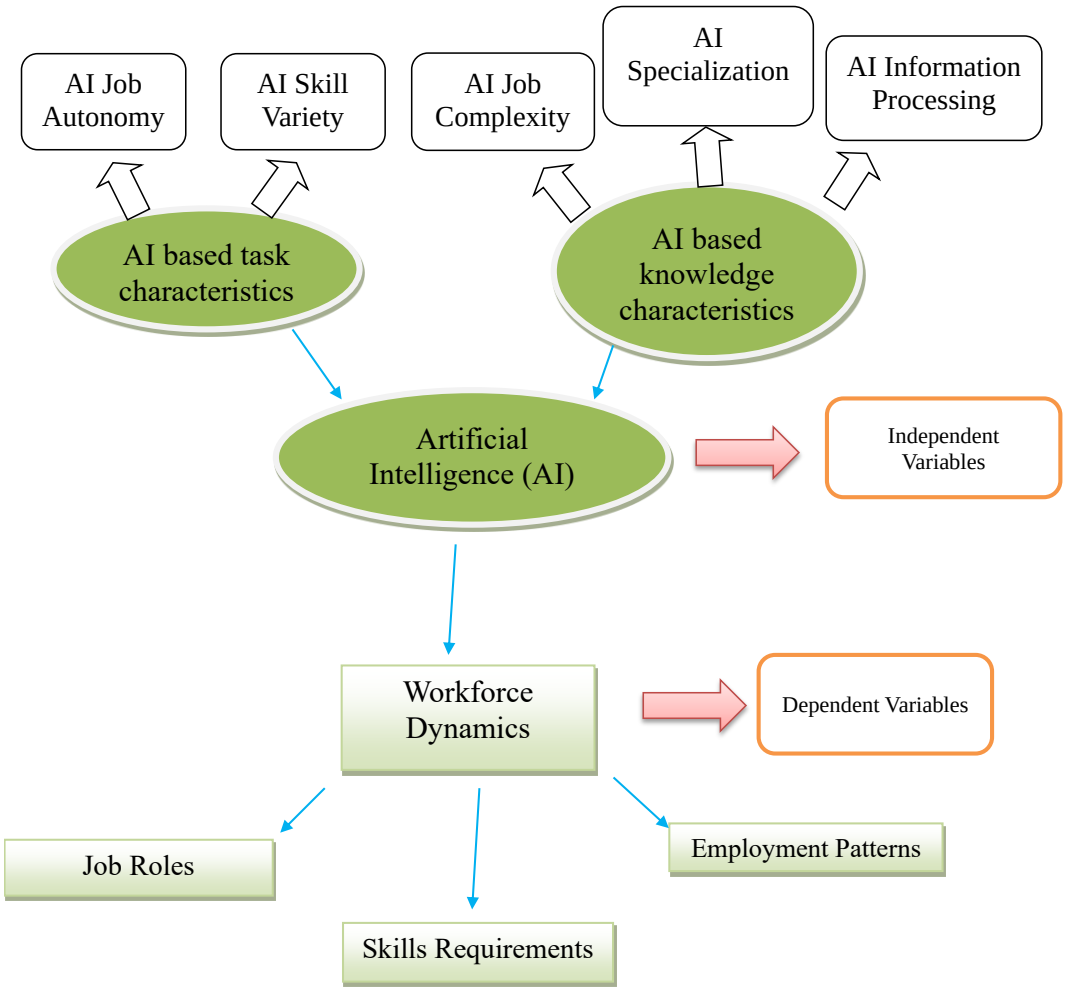

Figure 1. Framework of the Study
Source: Suggested Conceptual Model by Researchers (2025)

This research employed a survey methodology, collecting data that was subsequently analyzed using statistical methods to provide both descriptive and inferential insights. A non-probability sampling approach, specifically convenience sampling, was utilized to select participants, ensuring that only actively employed individuals were included in the study.

This study used surveys to collect data from employed individuals in education, finance, property, and banking sectors to study the effects of AI on employment, required knowledge, and the workforce. A convenience sampling method was used to select 435 participants, and their backgrounds were collected through a standard questionnaire. The survey was pilot tested to ensure consistent results (Bonett & Wright, 2015).

A preliminary study was conducted with 20 individuals familiar with artificial intelligence to ensure the accuracy of the research instrument. This involved a pre-

test, followed by factor and reliability analyses conducted in both Khmer and English languages. The goal was to determine the underlying dimensions of the research concepts, select the most relevant questions based on their factor loadings, and validate these against existing theoretical frameworks. Results from SPSS showed that all components exceeded a score of 0.6, indicating their suitability for inclusion in the main study. Ultimately, the pilot study identified five distinct constructs related to AI and three constructs associated with labor dynamics.

Table 3. Data of Exploratory Factor Analysis of Artificial Intelligence

Code	Description	Factor Analysis			
		FL	**KMO**	**E**	**Cu%**
AI-based Task Characteristics (ATC)					
ATC 1	“The AI system can effectively complete tasks without needing human intervention.”	0.701	0.728	2.482	62.312
ATC 2	“I am confident in the AI's ability to handle its assigned tasks independently."	0.716			
ATC 3	"The AI requires minimal supervision to perform its job duties.”	0.773			
ATC 4	"The AI is capable of making decisions and taking actions on its own."	0.621			
ATC 5	"The AI can adapt to changing circumstances and complete tasks without needing constant guidance."	0.625			
AI Skill Variety (ASV)					
ASV 1	"The AI utilizes a wide range of skills to complete its tasks."	0.318	0.845	3.003	60.061
ASV 2	"The AI is capable of performing diverse and varied activities."	0.687			
ASV 3	"The AI's tasks require it to use a broad set of abilities."	0.633			
ASV 4	"The AI can handle tasks that involve different types of knowledge and expertise."	0.675			
ASV 5	"The AI's job requires it to adapt and learn new skills to address different challenges."	0.691			
AI-based Knowledge Characteristics (AKC)					
AKC 1	“The AI system's tasks require it to handle a wide range of interconnected knowledge domains.”	0.664	0.803	3.022	60.446
AKC 2	“The AI system's tasks involve dealing with ambiguous or incomplete information.”	0.653			

AKC 3	"The AI system's tasks demand complex reasoning and inference based on its knowledge."	0.702			
AKC 4	"The AI system's tasks necessitate adapting its knowledge to novel or unforeseen situations."	0.631			
AKC 5	"The AI system's tasks require it to evaluate and prioritize conflicting information or knowledge."	0.394			
AI Specialization (AS)					
AS 1	"The AI system possesses highly specialized knowledge within a specific domain."	0.632	0.843	3.143	62.867
AS 2	"The AI system's knowledge is primarily focused on a narrow area of expertise."	0.62			
AS 3	"The AI system's knowledge base is extensive and detailed within its area of specialization."	0.63			
AS 4	"The AI system can effectively apply its knowledge to tasks within its specialized domain."	0.653			
AS 5	"The AI system's knowledge is primarily applicable to a limited set of problems or tasks."	0.609			
AI Information Processing (AIP)					
AS 1	"The AI system can efficiently process large volumes of information relevant to its tasks."	0.662	0.861	3.171	63.415
AS 2	"The AI system can effectively integrate information from multiple sources to inform its tasks."	0.697			
AS 3	"The AI system can accurately identify patterns and relationships within the information it processes."	0.669			
AS 4	"The AI system can adapt its information processing strategies based on the demands of the task."	0.625			
AS 5	"The AI system can effectively utilize its processed information to make decisions or solve problems."	0.518			

Source: Processed Data by Researchers

Table 4. Data of Factor Analysis of Workforce Dynamics

Code	Description	Factor Analysis			
		FL	KMO	E	Cu%
Job Roles (JR)					
JR 1	"I believe AI is automating many of the routine tasks in my current job."	0.624	0.885	4.072	50.897
JR 2	"I am concerned that AI will lead to significant job displacement in the future."	0.605			
JR 3	"I believe that developing AI-related skills is essential for my future career success."	0.572			
JR 4	"My company is adequately preparing me to work alongside AI technologies."	0.753			
JR 5	"I believe that AI will ultimately have a positive impact on the future of work, despite the challenges."	0.725			
JR 6	"I am actively seeking to improve my AI-related skills through training or education."	0.646			
JR 7	"I believe that human-AI collaboration will be crucial for future job success, rather than AI completely replacing human workers."	0.601			
JR 8	"I am concerned about the ethical implications of AI in the workplace, such as bias and privacy."	0.565			
Skills Requirements (SR)					
SR 1	"My current job requires me to use a variety of digital devices and software applications."	0.459	0.904	4.412	55.147
SR 2	"My employer expects me to learn and adapt to new technologies quickly."	0.58			
SR 3	"Troubleshooting technical issues is a necessary part of my job."	0.562			
SR 4	"My job requires me to have some knowledge of programming or coding."	0.464			
SR 5	"I am expected to find and evaluate reliable information online as part of my job duties."	0.638			
SR 6	"My job requires me to communicate and collaborate effectively with others using digital tools."	0.646			
SR 7	"I am expected to create and share digital content as part of my job responsibilities."	0.537			

SR 8	"My employer emphasizes the importance of understanding ethical and legal considerations related to the use of digital technologies."	0.525			
Employment Patterns (EP)					
EP 1	"My ability to use a variety of digital devices and software applications has positively impacted my employment opportunities."	0.647	9.19	4.805	60.065
EP 2	"My ability to quickly learn new technologies has helped me advance in my career."	0.587			
EP 3	"Strong digital skills have been important for finding and securing my current job."	0.559			
EP 4	"My digital skills have helped me to increase my productivity and efficiency at work."	0.581			
EP 5	"Digital skills have become increasingly important for career success in my field."	0.636			
EP 6	"I believe that strong digital skills are essential for future job security."	0.607			
EP 7	"My ability to use digital tools for communication and collaboration has improved my career prospects."	0.611			
EP 8	"I believe that my digital skills have made me a more valuable asset to my employer."	0.578			

Source: Processed Data by Researchers

A trial run was implemented to ensure the reliability of the research questionnaires. Cronbach's alpha, which measures how consistently the items in each variable measure the same thing. As shown in Table 5, all variables demonstrated satisfactory reliability, with alpha coefficients exceeding the 0.6 threshold (By, 2024). Each variable comprised between four and eight items.

Table 5. Data from Reliability

No.	Research Variables	ALPHA (N=435)	# OF ITEMS
1	AI based task characteristics (ATC)	0.727	5
2	AI Skill Variety (ASV)	0.788	5
3	AI based knowledge characteristics (AKC)	0.763	5
4	AI Specialization (AS)	0.745	5
5	AI Information Processing (AIP)	0.751	5

6	Job Roles (JR)	0.674	8
7	Skills Requirements (SR)	0.703	8
8	Employment Patterns (EP)	0.702	8

Source: Processed Data by Researchers

This study uses multivariate analysis analysis to investigate how artificial intelligence (AI), the characteristics of AI-driven tasks, and the knowledge demands of AI impact workforce dynamics (WD). Workforce dynamics are defined as changes in job roles, required skills, and employment trends. The analysis will use the following multiple regression equation adopted from Maulud & Abdulazeez (2020):

Description: Hypotheses for Study

$Yi = \beta_0+\beta_1 X_1i+\beta_2 X_{2i}+\beta_3 X_{3i}+\ldots\ldots\ldots\ldots\ldots + \varepsilon_i$

Y = Dependent Variable (Workforce Dynamics - WD)

B_0 *= Constant*

$B_1 \ldots B_{11}$ *= Slopes of the regression (representing the impact of each independent variable on WD)*

$X_1 \ldots X_{11}$ *= Independent Variables (AI, characteristics of AI-driven tasks - ATC, and AI knowledge demands - AKC)*

E_i *= Error Term*

The study proposes the following hypotheses:

1. $Hypothesis_1$ = AI influences Workforce Dynamics (WD)
2. $Hypothesis_2$ = The characteristics of AI-driven tasks (ATC) influence Workforce Dynamics (WD)
3. $Hypothesis_3$= AI knowledge demands (AKC) influence Workforce Dynamics (WD)

RESULT AND DISCUSSION

The outcomes of the survey show a primarily female sample (68.5%), with the bulk of respondents under 30 years old (85.7%). Most have a bachelor's degree (77.5%) and one to two years of experience (63.2%). Mostly the prevalent job title among responders is Educator/Trainer (64.1%), followed by IT Support Staff (7.1%). More than half of the participants (52.6%) make less than $200, with the next largest group (27.4%) earning between $300 and $500. This data indicates a young, educated, and mostly female workforce, primarily in education and IT-related professions, with relatively low pay, as seen in table 6.

Table 6. Data of Population Analysis

Demographic Information	Description	Frequency	Percentage
Gender	Male	139	31.5
	Female	298	68.5
Age	Under 30	373	85.7
	30 to 40	35	8
	40 to 50	20	4.6
	Above 50	7	1.6
Education	Diploma	35	8
	Bachelor	337	77.5
	Master	40	9.2
	PhD	23	5.3
Experiences	1 year to 2 years	275	63.2
	3 years to 4 years	100	23
	5 years to 6 years	20	4.6
	Above 7 years	40	9.2
Positions	Educators/Trainers	279	64.1
	Administrative Assistants	22	5.1
	Lecturers	31	7.1
	Real Estate Agents	3	9.7
	Auditors	7	1.6
	Accountants	13	5.3
	Banks officers	2	0.5
	Manufacturing Workers	3	0.7
	HR Recruiters	7	1.6
	Retail Cashiers	1	0.2
	Transportation and Delivery Drivers	6	1.4
	Supply Chain Managers	2	0.5
	Customer Service Representatives	9	2.1
	Marketing Professionals/Specialists	8	1.8
	Chief Information Officer	1	0.2
	IT Support Staff	31	7.1
Salary	Below $200	229	52.6
	$300 to $500	119	27.4
	$600 to $800	48	11
	Above $900	39	9

Source: Processed Data by Researchers

Descriptive Statistics Dissection

The table presents data from a survey of 435 respondents on AI and work, measuring variables such as AI-based task characteristics, skill variety, knowledge

characteristics, specialization, information processing, job roles, skill requirements, and employment patterns. The results show moderate agreement, with slightly higher agreement on AI's impact on employment patterns.

Table 7. Data of Descriptive Statistics

No.	Research Variables (n=435)	Mean (M)	SD	Level of Analysis
ATC	AI based task characteristics	3.1575	0.727	Agreement Level
ASV	AI Skill Variety	3.217	0.788	Agreement Level
AKC	AI based knowledge characteristics	3.239	0.763	Agreement Level
AS	AI Specialization	3.451	0.745	Agreement Level
AIP	AI Information Processing	3.455	0.751	Agreement Level
JR	Job Roles	3.481	0.674	Agreement Level
SR	Skills Requirements	3.473	0.703	Agreement Level
EP	Employment Patterns	3.549	0.702	Agreement Level

Source: Processed Data by Researchers

Relationship Analysis

The table shows significant correlations between AI and work, with strong positive correlations between workforce dynamics, AI specialization, and information processing. These results suggest that AI-based task characteristics, skill variety, and knowledge characteristics tend to move together, indicating that increased one variable is associated with increased others.

Table 8. Data of Correlation Analysis

Variables	1	2	3	4	5	6
Workforce Dynamics	1	0.54**	0.50**	0.56**	0.74**	0.76**
AI-based Task Characteristics	0.54**	1	0.72**	0.75**	0.55**	0.55**
AI Skill Variety	0.50**	0.72**	1	0.80**	0.56**	0.51**
AI-based Knowledge Characteristics	0.56**	0.75**	0.80**	1	0.63**	0.62**

AI Specialization	0.74**	0.55**	0.56**	0.63**	1	0.80**
AI Information Processing	0.76**	0.55**	0.51**	0.62**	0.80**	1

Source: Processed Data by Researchers

Analysis of Correlations of Independent Variables on Dependent Variables

The regression analysis shows a strong positive relationship between AI and organizational performance or workforce dynamics. However, AI-based task and knowledge characteristics show significant negative relationships. The variance inflation factor values are low, indicating no significant concern about multicollinearity. The model's overall fit and significance are not shown in this excerpt, but the individual predictor p-values indicate that each is a statistically significant predictor in the model as detailed in Table 9.

Table 9. Data of Correlational Hypotheses on Workforce Dynamics

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	.964	.103		9.337	.000	.761	1.168					
Artificial Intelligence	1.414	.085	1.415	16.700	.000	1.247	1.580	.731	.627	.506	.128	7.813
AI-based Task Characteristics	-.234	.050	-.266	-4.704	.000	-.332	-.137	.543	-.221	-.143	.288	3.471
AI-based Knowledge Characteristics	-.430	.058	-.512	-7.415	.000	-.544	-.316	.560	-.336	-.225	.193	5.188

Source: Processed Data by Researchers

CONCLUSION

The study reveals that AI's impact on workforce is influenced by task structure, specialization, and information processing. As AI becomes more prevalent, workplace dynamics will change. However, AI skills and workers' knowledge levels are not significant factors. Concerns about job displacement, data privacy, and unequal access arise. Businesses should focus on specialization, training, and AI governance policies. Further research is needed to track trends and the long-term effects of AI adoption.

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