

The risks of artificial intelligence on job loss in the field of human resources: Opinions from a sample of university professors specialized in human resource management

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Abstract---This study aims to shed light on the risks of artificial intelligence in causing job loss in the field of human resources. It relies on the opinions of a selected group of academic university professors who specialize in human resource management. The study reflects the real situation faced by human capital as AI applications become more widespread. These developments have led to a reduced need for human input, which in turn creates risks and challenges that affect individuals, society, and the economy. To achieve the study's objectives, 70 questionnaires were analyzed. These resources were distributed to university professors specialized in human. The analysis showed a statistically significant relationship between the use of artificial intelligence and job loss in the human resources field. The participants confirmed this finding and stressed the need for a smooth and well-managed transition to artificial intelligence within institutions. They also emphasized the importance of recognizing the knowledge and capabilities that human resources continue to provide.

Keywords---Artificial Intelligence, Job Loss, Human Capital.

Introduction

Technology and the remarkable growth in the digital world have become a central topic in global economic markets. This trend now shapes the direction of modern economic institutions that aim to achieve excellence and generate profit in the shortest possible time and at the lowest cost. Artificial intelligence has helped achieve this goal. As a modern and intelligent technology, it enables

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organizations to reach their objectives in line with their strategies. It does so in a smart, smooth, and human-like way that saves both time and cost.

Despite its achievements and progress, artificial intelligence has become a potential threat to human resources. It now poses a risk to many routine jobs and forces employees to acquire new skills and knowledge in order to maintain their positions. It is also shifting the balance of the labor market by eliminating many roles and replacing them with AI-based systems that require less time and effort.

Based on this context, the following research question is posed: **To what extent does artificial intelligence affect job loss in the field of human resources, according to the views of university professors specialized in the field?**

To further explore this issue, the following sub-questions are proposed:

1. What is artificial intelligence, and what are its applications in human resource management?
2. What is job loss, and what are its psychological and economic effects?
3. How does artificial intelligence influence job loss?
4. What are the opinions of specialized university professors on the relationship between artificial intelligence and job loss?

Hypotheses

To answer the research question, the following hypotheses were proposed:

- **Main Hypothesis 1:** There is no statistically significant effect at the 0.05 level of artificial intelligence on job loss in the field of human resources.
- **Main Hypothesis 2:** There is no statistically significant correlation at the 0.05 level between artificial intelligence and job loss in the field of human resources.

Research Methodology The study adopts the descriptive and analytical method, which is appropriate for the research topic.

Research Objectives This study aims to:

- Examine the impact of artificial intelligence on job loss in the field of human resources
- Analyze the likelihood of job loss caused by artificial intelligence
- Explore the opinions of academic professionals regarding this phenomenon
- Propose practical solutions to help reduce the negative effects of this issue

Research Significance The importance of this study lies in its analysis of the relationship between artificial intelligence and job loss in human resources—a phenomenon that now threatens many employees. This issue has serious negative consequences for individuals as workers and members of society, and it is expected to impact the broader economy as well.

Previous Studies

1. **Justin Dima, Marie-Hélène Gilbert, Julie Dextras-Gauthier, Laurent Giraud** *“The Effects of Artificial Intelligence on Human Resource Activities and the Roles of the Human Resource Triad: Opportunities and Challenges.”* Published in PMC PubMed Central, June 2024

This study aims to provide an academic analysis of the relationship between artificial intelligence and human resources. It focuses on both the challenges and the opportunities that come with this integration. The findings highlight the role of AI in automating tasks, optimizing the use of HR data, and enhancing human capabilities. The study also points to a need to redesign the work environment. Overall, it concludes that AI reshapes human by improving competencies and decision-making processes—if applied correctly.

2. **Kelechi Ekuma** *“Artificial Intelligence and Automation in Human Resource Development: A Systematic Review.”* Published in Human Resource Development Review, Vol. 23, Issue 2, pp. 199–229 (2024)

This study explores the impact of artificial intelligence on the practice and development of human resources. It focuses on how HR functions are influenced by AI technologies. The study is based on a systematic review of a wide range of academic papers and conference contributions in the same field. It also identifies existing research gaps and outlines possible future directions for scholars and practitioners.

3. **Adil Benabou, Fatima Touhami, Lamiae Demraoui** “*Artificial Intelligence and the Future of Human Resource Management.*” Presented at the IEEE International Conference on Intelligent Systems and Computer Vision (ISCV), May 2024

This paper discusses the integration of artificial intelligence into human resource management practices. It highlights the shift from traditional HR functions to a more talent-oriented approach. The study looks at how AI can enhance the efficiency of HR operations. It also addresses ethical challenges and emphasizes the need to improve skill levels among HR professionals.

Research Structure

This research paper is organized into three main sections:

- **Section One:** General Concepts of Artificial Intelligence
- **Section Two:** The Relationship Between Artificial Intelligence and Job Loss
- **Section Three:** Survey Analysis and Interpretation

Section One: General Concepts of Artificial Intelligence

The rapid technological development currently taking place in global markets has created fear and anxiety among human resources across all sectors. This shift has forced employees to keep pace with technological changes, or risk losing their jobs. This concern has grown especially with the rise of artificial intelligence applications in economic institutions, which have begun to replace human labor in many positions.

1. The Concept of Artificial Intelligence

Artificial intelligence is not a new invention. It is a long-standing human aspiration that has its roots in earlier times. The idea of robots and intelligent machines has long been featured in films and discussed in scientific forums and conferences. In the 1940s, the development of the early digital computer—most notably the famous Turing machine—marked the beginning of advanced computing capable of solving complex mathematical problems. From there, algorithms evolved, followed by major advances such as neural networks and deep learning.

Since 2010, artificial intelligence has witnessed rapid growth and has expanded into all sectors, including the economy, healthcare, and education. What was once a dream has now become a part of daily life.

John McCarthy, the first to define the term artificial intelligence, described it as:

“The science and engineering of making intelligent machines, especially intelligent computer programs. It is related to the task of using computers to understand human intelligence, but AI does not have to confine itself to methods that are biologically observable.” (*Baba, Issue 01, July 2023*)

Artificial intelligence is a branch of computer science based on systems and technologies designed to solve problems, make decisions, and learn from experience in a way that imitates human cognitive processes.

2. Classifications and Techniques of Artificial Intelligence

Artificial intelligence can be classified in various ways, depending on its application and the purpose it serves. Based on these criteria, three main types of AI are commonly identified:

2.1 Weak Artificial Intelligence

Also called reactive machines, this is the simplest form of AI. It is programmed to carry out a specific task or a limited set of tasks in a fixed environment. An example is the Deep Blue chess-

playing computer developed by IBM, which famously defeated world champion Garry Kasparov. (*Abdelkarim, Pilot Issue, 2019*)

2.2 Strong Artificial Intelligence

This type aims to replicate human-like thinking. It focuses on enabling machines to think and plan independently in a way that resembles human cognitive functions. (*Ghada, Vol. 6, Issue 05, November 30, 2022*)

2.3 Super Artificial Intelligence

This refers to a hypothetical type of AI that surpasses human intelligence. It is expected to solve problems more effectively than even the most intelligent humans. Scientists are still working to achieve this level. Examples of its anticipated capabilities include judgment, emotional understanding, autonomous communication, and even future prediction. However, as of now, no complete model has been developed for this level of AI.

Each type of artificial intelligence relies on specific techniques. These can be summarized in the following table:

Table 01: Artificial Intelligence Techniques

Technology	Analyze it
Machine learning	It relies on algorithms that aim to accurately predict based on data from previous experiments.
Natural Language Processing	It is a computer language programming to process the natural language of humans. Due to the difficulty of analysis, algorithms are used to analyze it and convert it into easy data that can be understood by the computer.
Automation and Robotics	Providing robots with programmed commands to perform their tasks well, with more efficient results and at a lower cost. Automation also works to protect and combat fraud attempts.
machine vision or insight	It is based on capturing visual information and converting it into digital data. This mechanism is characterised by sensitivity and accuracy. This mechanism is used to detect forgery in signatures and documents, as well as to provide accurate analysis of medical images.

Source: Prepared by the researcher

3. Artificial Intelligence in Human Resource Management

Human resource management is primarily centered around the human element. It focuses on attracting skilled, intelligent, and creative individuals. However, with the emergence and spread of artificial intelligence in administrative processes, this dynamic has shifted. Human resource departments have increasingly adopted AI-based tools that streamline administrative tasks and reduce both time and cost. Some of the most widely used applications include:

3.1 Hire Smarter

This application is used in the recruitment process to identify the most intelligent, talented, and experienced candidates. It relies on artificial intelligence to compare and analyze applicants' profiles, including their qualifications, knowledge, and work experience. It then matches these with the scientific and professional requirements of the available position. This helps filter out unqualified candidates, saving time and reducing the cost of file review. The tool also supports the archiving and automation of applicant records.

3.2 Engage Smarter

This application is popular among employees. It enables effective communication between managers, employees, and the organization. It supports employee career development by using organizational data to guide and optimize learning and mentoring processes.

3.3 Work Smarter

This tool automates routine tasks and daily procedures within HR departments. It helps detect errors, address issues, and make appropriate decisions. It also reduces the time and expenses associated with manual processing.

In addition to these, there are many other AI applications used in human resource management to improve efficiency, reduce costs, and enhance productivity. For instance:

- HireVue It is used in recruitment to select the best candidates.
- Paradox Facilitates candidate interviews and chatbot-based communication.
- Oracle HCM Cloud supports forecasting employee needs, training, and recommendations.
- In performance evaluation, SAP SuccessFactors is widely adopted.
- For psychological and cognitive assessments, Pymetrics is frequently used.

Section Two: The Relationship Between Artificial Intelligence and Job Loss

Job loss has always been a major concern for human resources, especially when there are no clear alternatives available. With the growing adoption of artificial intelligence across organizations and in both private and public sectors—covering fields such as healthcare, education, and services—job loss has become a harsh reality for many workers. It is now a real threat to their stability within organizations.

1. Job Loss and Its Implications

One of the greatest fears for employees is being laid off without any available alternatives. Artificial intelligence presents a direct and significant risk to human resources. This is especially true for simple and repetitive roles, which organizations have increasingly eliminated. The threat has even extended to essential roles such as translation and proofreading, where smart applications have replaced human effort. As machines have advanced, they have reduced the need for manual labor in areas such as packaging, storage, and inspection, with robots now handling many of these tasks. Quality control and defect detection are also being managed by AI systems. Web designers face competition from AI tools, and sales roles have been replaced with self-service and mobile payment technologies. Across many sectors, artificial intelligence has become a substitute for human labor, resulting in the elimination of numerous jobs.

Job loss has serious consequences. It affects the financial and emotional well-being of employees. The resulting stress can lead to depression and burnout, undermining their self-confidence and professional potential. Economically, job loss leads to a decrease in individual income levels, which in turn affects the broader well-being of society. A stable financial situation is essential for ensuring both personal and social well-being.

2. Analyzing the relationship between Artificial Intelligence and Job Loss

Artificial intelligence has had a direct and evident impact on the labor market. It has led to the downsizing of many roles and the complete elimination of others. Organizational structures have been reshaped, and many functions have been reduced to a single application using automation and modern technologies. However, this does not mean that AI has not created new employment opportunities. It is estimated that while 92 million jobs may disappear, about 170 million new jobs could emerge. Among these new roles are AI operations manager, AI ethics officer, AI conversation designer, AI model trainer, and customer sentiment analyst.

These changes demand continuous professional development and the reskilling of workers to meet evolving needs. The impact of AI is already visible. Major layoffs have followed its integration into organizations. Some of the world's largest companies have adopted such strategies. For example, Microsoft laid off over 6,000 employees, while American tech companies cut more than 95,000 jobs in a single year. Since 2023, Google has continued laying off about 200 employees per month. These developments reflect the growing dominance of artificial intelligence and its ability to outperform human labor. We are now entering an era in which machines may replace human workers.

Section Three: Study of Opinions from University Professors Specialized in Human Resource Management

To investigate the impact of artificial intelligence on job loss within the field of human resource management, a questionnaire was distributed to a selected group of university professors. These individuals were chosen for their academic expertise and their comprehensive understanding of both theoretical HR frameworks and the current reality shaped by the spread of AI across sectors.

1. Research Sample

The sample included 120 university professors specialized in human resource management. Their academic and professional background qualified them to assess the topic in depth. The participants were drawn from ten different universities across the country. A total of 120 questionnaires were distributed, and 70 completed responses were returned and found suitable for analysis.

2. Research Instrument

The primary research tool was a structured questionnaire consisting of three main sections:

- **Section One:** General demographic information about the participants (age, gender, academic qualifications, years of experience, job title).
- **Section Two:** This section included three main themes:
 - Awareness of current developments in artificial intelligence
 - The impact of artificial intelligence on job loss in the HR field
 - Institutional and individual awareness of the risks posed by the spread of AI
- **Section Three:** Expert opinions and suggestions regarding the topic, including proposed solutions and strategies to address the potential threat of AI to employment.

3. Reliability of the instrument

To assess the reliability of the study instrument, Cronbach's Alpha coefficient was calculated for the main variables. The findings are presented in the following table:

Table 02: Questionnaire Reliability - Cronbach's Alpha Values

Questionnaire axes	Number of phrases	Alpha Krombach
Familiarity with modern knowledge of artificial intelligence	06	0.884
The impact of artificial intelligence on job losses in the field of human resources	06	0.885
Institutional and human resource awareness of the threat posed by the spread of artificial intelligence	06	0.925
The questionnaire as a whole	18	0.955

Source: Prepared by the researcher

The table shows that the Cronbach's Alpha coefficient for the study variables reached 0.955, which is a high and highly acceptable value. This indicates a strong internal consistency among the questionnaire items and reflects a high level of reliability and trustworthiness.

4. Presentation and Analysis of the Participants' Responses to the Questionnaire Themes

Table (03): Means and Standard Deviations for the Questionnaire Items

The number	phrase	arithmetic mean	Standard deviation	Degree of adoption
Axis 1: Familiarity with modern knowledge of artificial intelligence				
01	I am aware of new artificial intelligence programs.	2.78	0.75	High

02	Artificial intelligence programs in human resource management are effective and good.	3.45	0.60	too high
03	Artificial intelligence attracts a distinguished and skilled workforce	2.91	0.77	High
04	Artificial intelligence trains and develops the performance of the workforce	2.77	0.70	High
05	Artificial intelligence evaluates employee performance with high reliability.	2.48	0.88	High
06	Artificial intelligence saves time and reduces costs.	2.61	0.85	High
	Total of the first axis	2.83	0.74	High
Axis 2: The impact of artificial intelligence on job losses in the field of human resources.				
01	Artificial intelligence will lead to the loss of some jobs.	2.57	0.69	High
02	Artificial intelligence is more efficient at performing routine tasks.	2.51	0.71	High
03	Reducing staff numbers and replacing them with artificial intelligence is better for the organization.	2.24	0.53	low
04	The simple labor force is threatened by artificial intelligence.	2.50	0.79	low
05	Artificial intelligence is redefining jobs.	2.50	0.81	low
06	Artificial intelligence creates new jobs based on automation technology.	2.81	0.76	High
	Second axis total	2.52	0.71	High
Axis 3: Institutional and human resource awareness of the threat posed by the spread of artificial intelligence.				
01	Human resources need to be qualified and developed to keep pace with artificial intelligence.	2.52	0.75	High
02	The organization adopts a flexible strategy to transition to artificial intelligence.	2.27	0.75	low
03	Educational and training institutions prepare the future workforce to face the risks of artificial intelligence.	2.42	0.79	low
04	Developing human resources in the field of artificial intelligence has become an urgent necessity.	2.85	0.74	High
05	The organization is willing to dispense with human resources in exchange for cost reduction.	2.58	0.71	High
06	Artificial intelligence replaces human resources in terms of instant feedback and professional feelings.	2.41	0.78	low
	Total axis three	2.50	0.81	low
	Total	2.61	0.73	High

From the table, it becomes clear that the first axis of the questionnaire, which addressed familiarity with modern knowledge of artificial intelligence, reflected a high level of response from the sample members. The mean score was (0.83) with a standard deviation of (0.74). This indicates that the participants possess broad knowledge of artificial intelligence and show strong interest in the field, likely due to its direct relevance to their area of specialization.

The second axis, which dealt with the impact of artificial intelligence on job loss in the human resources sector, had a mean score of (0.52) and a standard deviation of (0.71). This reflects a moderate level of agreement among respondents regarding the negative impact of artificial intelligence on certain jobs that may eventually become redundant, reducing the need for human resources in those roles.

As for the third axis, which examined institutional and human resource awareness of the risks associated with the spread of artificial intelligence, the results showed a low level of awareness. The mean score was (2.61) with a standard deviation of (0.73), indicating, unfortunately, a lack of strategic planning within institutions for a smooth transition toward integrating artificial intelligence with their human capital. Even institutions that supply labor do not seem to be actively addressing the clear threat posed by artificial intelligence.

4. Hypothesis Testing of the Study:

To address the central research question, the following main hypotheses were proposed:

Main Hypothesis 1: There is no statistically significant effect at the 0.05 significance level of artificial intelligence on job loss in the field of human resources.

To test this hypothesis, a simple linear regression analysis was conducted to determine the effect of artificial intelligence on job loss. The results are summarized in the following table:

Table (04): Results of Simple Linear Regression Analysis of the Effect of Artificial Intelligence on Job Loss

Variables	R	R ²	constantB	Factorsβ	constantF	valuet	Significance level
Artificial intelligence and its impact on job loss	0.91	0.83	0.06	0.94	331.83	50.69	0.000

Source: Prepared by the researcher

The table shows that the effect of artificial intelligence on job loss in the field of human resources is significant, with a correlation coefficient (R) of 0.91. The coefficient of determination (R²) reached 0.83, which indicates that the independent variable explains 83% of the variance in the dependent variable.

Based on the table, the following regression equation was derived:

$$Y = 0.06 + 0.94X$$

From the above results, the null hypothesis—which states that there is no statistically significant effect at the 0.05 level between artificial intelligence and job loss in the field of human resources—is rejected. The alternative hypothesis is accepted.

Main Hypothesis 2: There is no correlation at the 0.05 significance level between artificial intelligence and job loss in the human resources field.

To test this hypothesis, Pearson's coefficient correlation was used. The results are summarized in the following table:

Table (05): The Relationship Between Artificial Intelligence and Job Loss

	job loss	Significance level
artificial intelligence	0.91	0.000

Source: Prepared by the researcher

The table shows a positive direct relationship between the independent and dependent variables. Based on these results, the null hypothesis—which states that there is no significant correlation at the 0.05 level between artificial intelligence and job loss—is rejected. Accordingly, the alternative hypothesis is accepted.

Conclusion

The role that artificial intelligence has begun to play within organizations and in society as a whole has become both prominent and, to some extent, concerning. Its growing control over institutions—through the provision of data, information, and accurate decision-making—has made it a priority for business leaders. However, this increasing reliance has also posed a clear threat to human resources in the labor market.

Based on our study, which examined the risks of artificial intelligence on job loss in the human resources sector from the perspective of university professors specializing in HR management, we reached the following conclusions:

- Artificial intelligence plays a key role in organizations by saving time and reducing costs.
- It poses a direct threat to human workers with limited knowledge or basic skill sets.
- It has introduced new types of jobs that rely heavily on advanced technology and automation.
- Many jobs have already been eliminated and replaced with fast and simple AI-based applications.
- In the field of human resources, AI has merged and streamlined several processes through smart applications.
- AI will create new opportunities in HR, but it will also result in job losses, with associated psychological, social, and economic consequences.

This study offers the following recommendations:

- Serious training and capacity building for human resources in AI-related skills to ensure smooth and efficient operations.
- A gradual and carefully planned transition toward AI adoption by organizations, in ways that align with institutional goals while considering the human workforce.
- Maintaining a balance between AI integration and the continued reliance on skilled human capital by hiring and retaining creative and innovative talent.
- Keeping up with technological progress and modernizing institutions does not necessarily mean replacing human resources with AI, but rather finding a balanced approach that benefits both society and the economy.

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