

INFLUENCE OF ARTIFICIAL INTELLIGENCE ON JOB SECURITY AS PERCEIVED BY BUSINESS EDUCATORS

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Abstract

Artificial intelligence (AI) is transforming workplace of various industries. It does routine jobs with little or no human assistance in a much efficient manner. AI has the potential to replace certain tasks currently done by humans. This has sparked discussions about the influence of AI on job security. Business educators must clearly understand this phenomenon to be able to prepare students for this shift in the workforce. The study determined the influence of AI on job security as perceived by business educators in Cross River State, Nigeria. Descriptive survey design was used in the study. The population of the study comprised eighty-nine (89) Business Educators (53 male and 36 female) in four (4) tertiary institutions in Cross River State. The entire population was used because it was manageable, thus, there was no sample in the study. A self-designed 4-point rating scale questionnaire titled: Questionnaire on Perceived Influence of Artificial Intelligence on Job Security (QPIAIJS) was used for data collection. The instrument was validated by experts and tested for reliability using Cronbach Alpha which produced a reliability coefficient of 0.83 Mean and standard deviation were used to analyse the data and find answers to the research questions, while t-test was used to test the research hypotheses. The findings revealed that business educators perceived AI both as a threat and potential benefits of job security. They perceived it as a threat when their tasks can be replaced by AI and as a potential benefit when they need to work with AI to enhance job efficiency. It was recommended that business educators should continuously update their knowledge to stay informed about new trends and adjust accordingly.

Keywords: Artificial, Business, Intelligence, Job, Security

Introduction

Artificial Intelligence (AI) is an interdisciplinary field of science covering machine learning, natural language processing, computer vision, robotics, and expert systems working together to achieve intelligent behaviour. Brougham and Haar (2018) noted that it is a broad subject that deals majorly with the aspect of machines exhibiting human-like behaviour by carrying out complex computational tasks usually assigned to humans. Davenport (2018) regard AI as a technology that possess the abilities that were originally attributed to humans. It refers to the simulation of human intelligence in machines that are programmed to think and learn like humans. It is among the technological advanced innovations of the 21st century which has revolutionized various industries, including education.

The integration of AI in education has transformed traditional teaching methods. Its use in education can improve student engagement and performance. It can provide real-time feedback to students, helping them understand concepts better. Also, AI-powered tools can help business educators create customized learning paths based on students' needs. AI applications in education include personalized learning, automated grading, and smart content. Surugiu et al (2024) noted that AI in education, comes not only with opportunities but mostly with challenges for both educators and learners. Therefore, it is the interest of this articles to investigate the potentials and threats of AI on job security.

Job security is the assurance the employees have that they will stay on their and enjoy the benefits associated with it. It can be said to the sense of certainty of the security of an employee's job from sack or redundancy (Sanyal, et al, 2018). It can also be seen as the freedom from the apprehension of losing one's job. In simple terms it is confidence the employees have that their current job is safe and intact. Such assurance or confidence could influence the employees' job performance. Job security affects the performance of the employees such that they become motivated and enthusiastic in the job. It is important for an employee to have a job security because it touches on improved motivation, career stability, appears good on the curriculum vitae and considerations (Heiburzki in Sanyal et al, 2018). Educators must likely wants to have a secure job where they can grow their career. Any contributing factor to guarantee their jobs security is welcome, while any perceived threat is often resisted.

AI holds huge potentials in education to enable educators work efficiently. It aid in administrative tasks, personalising learning plans, and saving time (Surugiu et al, 2024). In the assertion of Zhang and Aslan (2021), AI systems in education significantly enhance learners' involvement, performance, engagement, enriched learning resources, and intellectual stimuli. Similarly, Southworth et al. (2023) noted the benefits of AI in education to include fostering technical skills, creativity, critical thinking, and problem solving abilities for students. Furthermore, Chiu et al. (2023) identified some benefits of AI in education to include: competency-based task assignments, learner-machine discussions, feedback, and adaptive digital environments. Also, AI assists educators in data related decisions or work (Chen et al, 2020). Furthermore, AI can aid communication between students and instructors by autonomously responding to students' queries, relaying weekly announcements, and providing answers to frequently asked questions (Benedetto et al, 2019).

Despite the benefits of AI, many still perceive it as a threat to job security since most jobs are being replaced by AI. It is feared that the increase of production efficiency as a result of the adoption of AI will force manufacturing enterprises to eliminate certain sectors, and reduce the degree of engagement as well. Kililo (2021) maintained that as people keep moving towards the future, a lot of them are losing their employment opportunities because technology like AI is replacing them. Sanman and Zhongbin in Liu and Zhan (2020) revealed that AI is different from general technological progress, the impact on employment will be more far-reaching, inevitably resulting in a decline in the share of employees' labour income or even changes in the employment structure, this is related to job insecurity, pay promotion insecurity and excessive competition insecurity. From many employees' point of view, AI has an inevitable impact on the survival of their work. As Liu and Zhan (2020) noted, the intervention of AI technology as the external factor of the organization, will threaten the stability of the employee's working state. Furthermore, Nguyen et al (2023) noted that AI-driven coaching runs the risk of undermining the educational expertise that instructors have acquired via their education and practice. This implies that in the future, AI experts will be controlling the duties reserved for educators. It is pertinent therefore to ascertain the influence of artificial intelligence on job security as perceived by business educators.

Statement of the Problem

Artificial intelligence (AI) is transforming workplace of various industries including education. It does routine jobs with little or no human assistance in a much efficient manner. In doing so, AI has the potential to replace certain tasks currently done by humans. This has sparked discussions about the influence of AI on job security. Business educators must clearly understand this phenomenon to be able to prepare students for this shift in the workforce. More so, there are different perceptions about AI. Some have considered it as a threat to job security while some hold the notion that AI is rather a potential benefit of human job efficiency. It became necessary to ascertain business educators' perceived influence of AI on job security.

Purpose of the Study

The study determined the influence of artificial intelligence on job security as perceived by business educators in Cross River State, Nigeria. Specifically, the study ascertained the:
Extent to which business educators perceived AI as a threat to job security
Extent to which business educators perceived AI as potential benefits of job security.

Research Questions

The following research questions guided the study:

What is the extent to which business educators perceived AI as a threat to job security?

What is the extent to which business educators perceived AI as potential benefits of job security?

Null Hypotheses

The following hypotheses were tested at 0.05 level of significance:

Ho₁: there is no significant difference on the extent to which male and female business educators perceived AI as threat to job security.

Ho₂: there is no significant difference on the extent to which business educators in federal and state-owned colleges of education perceived AI as potential benefits of job security.

Methodology

Descriptive survey design was used in the study. The population of the study comprised eighty-nine (89) Business Educators (53 male and 36 female) in four (4) tertiary institutions in Cross River State. The entire population was used because it was manageable, thus, there was no sample in the study. A self-designed 4-point rating scale questionnaire titled: Questionnaire on Perceived Influence of Artificial Intelligence on Job Security (QPIAIJS) was used for data collection. The instrument was validated by experts and tested for reliability using Cronbach Alpha which produced a reliability coefficient of 0.83 Mean and standard deviation were used to analyse the data and find answers to the research questions, while t-test was used to test the research hypotheses.

Results

Research Question 1: What is the extent to which business educators perceived AI as threat to job security?

Data analysed to provide answer to the first research question are presented in Table 1

Table 1: Mean and Standard Deviation Analysis of the extent Business Educators Perceived AI as Threat to Job Security

S/N	Perceived Threat of AI Job Security	$\bar{X}$	SD	DECISION
1	AI can perform multiple task meant for different educators	3.55	0.50	Very High Extent
2	Certain duties of educators will be replaced by AI	3.57	0.49	Very High Extent
3	AI will reduce the degree of work engagement by most educators	3.52	0.50	Very High Extent
4	AI will lead to decline in the share of educators' labour income	3.50	0.58	Very High Extent
5	AI will cause excessive competition insecurity	3.55	0.50	Very High Extent
6	AI-driven coaching runs the risk of undermining the educational expertise that educators have acquired via their education	3.60	0.49	Very High Extent
7	There will be AI experts interferences with the duties reserved for educators	3.49	0.50	High Extent
8	Emotional support to learners will reduce	3.60	0.49	Very High Extent
9	Educators may lost control over instruction delivery	3.46	0.50	High Extent
10	Educators may suffer career stability	3.69	0.46	Very High Extent
Grand Mean		3.55		Very High Extent

Table 1 reveals that the mean scores of the items range 3.69 to 3.46. Also, the standard deviations range between 0.58 and 0.46, indicating that the mean scores do not vary

much. Furthermore, the grand mean of 3.55 indicates that there is a very high extent to which business educators perceived AI as threat to job security.

Research Question 2: What is the extent to which business educators perceived AI as potential benefits of job security?

Data analysed to provide answer to the second research question are presented in Table 2

Table 2: Mean and Standard Deviation Analysis of the extent Business Educators Perceived AI as potential benefits of Job Security

S/N	Perceived Potentials of AI to Business Educators	$\bar{X}$	SD	DECISION
11	AI helps teachers develop personalised learning plans for each student	3.61	0.48	Very High Extent
12	AI enables educators to discover learning gaps in students	3.61	0.48	Very High Extent
13	AI stimulates the desire to assimilate new knowledge	3.65	0.47	Very High Extent
14	AI helps in automating students' assessment process	3.70	0.45	Very High Extent
15	AI helps in tracking students' academic progress	3.58	0.49	Very High Extent
16	AI saves instructor's time by completing tasks at a faster pace	3.50	0.52	Very High Extent
17	AI can help educators save time on manual grading tasks	3.60	0.51	Very High Extent
18	It can provide insights into student learning patterns	3.57	0.54	Very High Extent
19	AI tools can enhance the learning individuals experience	3.58	0.49	Very High Extent
20	AI can assist in identifying areas where students may need additional help	3.62	0.48	Very High Extent
Grand Mean		3.60		Very High Extent

Table 2 shows that the mean scores of the items range between 3.70 and 3.58. More so, the standard deviations range between 0.54 and 0.45, indicating that the mean scores do not vary much. Furthermore, the grand mean of 3.60 indicates that there is a very high extent to which business educators perceived AI as potential benefits of job security.

Null Hypothesis 1: There is no significant difference on the extent to which male and female business educators perceived AI as threat to job security.

Table 3: Summary on the extent to which male and female business educators perceived AI as threat to job security

Item	Gender	N=89	Mean	Std.	t-cal	t-crit	Df	Decision
1	Male	53	3.58	0.49	0.78	1.98	87	Accept
	Female	36	3.50	0.50				
2	Male	53	3.56	0.50	0.16	1.98	87	Accept
	Female	36	3.58	0.50				
3	Male	53	3.54	0.50	0.43	1.98	87	Accept
	Female	36	3.50	0.50				

4	Male	53	3.50	0.57				
	Female	36	3.50	0.60	0.07	1.98	87	Accept
5	Male	53	3.54	0.50				
	Female	36	3.55	0.50	0.07	1.98	87	Accept
6	Male	53	3.60	0.49				
	Female	36	3.61	0.49	0.06	1.98	87	Accept
7	Male	53	3.49	0.50				
	Female	36	3.50	0.50	0.08	1.98	87	Accept
8	Male	53	3.60	0.49				
	Female	36	3.61	0.49	0.06	1.98	87	Accept
9	Male	53	3.45	0.50				
	Female	36	3.47	0.50	0.17	1.98	87	Accept
10	Male	53	3.69	0.46				
	Female	36	3.69	0.46	0.03	1.98	87	Accept
Grand Mean					0.19			Accept

Table 3 reveals that all the items are accepted because their respective calculated-t values are less than the critical-t value of 1.98. Additionally, the grand mean score of the calculated-t 0.19 is less than the critical-t value. The first hypothesis is accepted, indicating that there is no significant difference on the extent to which male and female business educators perceived AI as threat to job security.

Null Hypothesis 2: There is no significant difference on the extent to which business educators in federal and state-owned colleges of education perceived AI as potential benefits of job security.

Table 4: t-test analysis of the extent to which business educators in federal and state owned colleges of education perceived AI as potential benefits of job security

Item	Ownership	N=89	Mean	Std.	t-cal	t-crit	Df	Decision
11	Federal	64	3.62	0.48				
	State	25	3.60	0.50	0.21	1.98	87	Accept
12	Federal	64	3.59	0.49				
	State	25	3.68	0.47	0.74	1.98	87	Accept
13	Federal	64	3.62	0.48				
	State	25	3.72	0.45	0.83	1.98	87	Accept
14	Federal	64	3.71	0.45				
	State	25	3.68	0.47	0.35	1.98	87	Accept
15	Federal	64	3.64	0.48				
	State	25	3.44	0.50	1.73	1.98	87	Accept
16	Federal	64	3.51	0.50				
	State	25	3.48	0.58	0.28	1.98	87	Accept
17	Federal	64	3.64	0.51				
	State	25	3.52	0.50	0.99	1.98	87	Accept
18	Federal	64	3.60	0.49				
	State	25	3.48	0.65	1.04	1.98	87	Accept
19	Federal	64	3.56	0.50				
	State	25	3.64	0.48	0.66	1.98	87	Accept
20	Federal	64	3.60	0.49				
					0.61	1.98	87	Accept

State	25	3.68	0.47
Grand Mean		0.74	Accept

Table 4 shows that all the items are accepted because their respective calculated-t values are less than the critical-t value of 1.98. Additionally, the grand mean score of the calculated-t 0.74 is less than the critical-t value. The second hypothesis is accepted, indicating that there is no significant difference on the extent to which business educators in federal and state owned colleges of education perceived AI as potential benefits of job security.

Discussion of Findings

Data analysed to provide answer to the first research question revealed that there was a very high extent to which business educators perceived AI as threat to their job security. With the emergence and adoption of AI in education there is growing concerns about the potential threat it poses to job security, particularly for business educators. These professionals could be at risk of losing their jobs to automation since AI technology has the potential benefits of automate certain teaching tasks like autonomously responding to students queries, delivering instructions, computing assessment and providing answers to frequently asked questions, thereby reducing the need for human instructors. The finding agrees with Almaraz-Lopez (2023) that there is a higher risk of job displacement by AI tools. The finding is also supported by Mirbabaie et al (2022) that AI may negatively impact employees' identifications with their jobs as AI is expected to fundamentally change workplaces and professions, feeding into individuals' fears of being replaced. The educators' previous experience with AI technology can shape this perception. Fear of the unknown can lead to scepticism and concern about job security. Furthermore, lack of understanding about how AI works and its potential applications can fuel job security anxiety.

In addition, the first hypothesis was accepted, indicating that there is no significant difference on the extent to which male and female business educators perceived AI as threat to job security. In other words, the threat to job security by AI is perceived is not applicable to a particular gender as both males and females are equally threaten of being replaced. The perceived threat of AI replacing human educators has led to increased uncertainty about the future of jobs in the field. The finding aligns with Nguyen et al (2023) that AI-driven coaching runs the risk of undermining the educational expertise that instructors have acquired via their education and practice. This implies that in the future, AI experts will be controlling the duties reserved for educators. The finding is in line with Sanman and Zhongbin in Liu and Zhan (2020) that AI is different from general technological progress and its impact on employment will be more far-reaching, inevitably resulting in a decline in the share of employees' labour income or even changes in the employment structure, this is related to job insecurity, pay promotion insecurity and excessive competition insecurity.

Data analysed to find answer to research question indicated that there is a very high extent to which business educators perceived AI as potential benefits of job security. This implies that business educators view AI as a tool that can improve job security. AI can enhance their decision-making and provide data for research. AI is a tool if successfully integrated into teaching can enhance teaching methods, increase efficiency and improve students' learning

outcomes. The finding agrees with Chen et al (2020) that AI assists educators in data related decisions or work.

The second hypothesis was accepted, indicating that there is no significant difference on the extent to which business educators in federal and state owned colleges of education perceived AI as potential benefits of job security. This suggests that AI can be adopted to perform critical functions in any educational institution. The finding is in line with Benedetto et al (2019) that AI can aid communication between students and instructors by autonomously responding to students' queries, relaying weekly announcements, and providing answers to frequently asked questions. The finding also aligns with Chiu et al. (2023) who identified some benefits of AI in education to include: competency-based task assignments, learner-machine discussions, feedback, and adaptive digital environments. AI is a tool to help business educators to do their jobs well and not to take away their job. There are many educators' jobs AI cannot do especially the non-routine ones. This agrees with Mabungela (2023) that humans will very certainly continue to do some of the labour that robots and computers will not be able to accomplish, and some of the positions are rather unexpected.

Conclusion

While the perceived threat of AI to job security for business educators is a valid concern, there are opportunities for professionals in the field to adapt and thrive in the changing landscape. AI technology in business education can be a positive force for innovation and improvement rather than a threat to job security. In order to address the concerns surrounding AI and job security in business education, proactive measures can be taken by providing training and support for educators to learn how to effectively integrate AI into their teaching practices. This can help alleviate fears and empower educators to embrace AI as a positive tool for enhancement. By embracing technology, up-skilling, and continuous learning, business educators can position themselves for long-term career success in the age of AI.

Recommendations

Based on the findings of the study it was recommended that:

1. Business educators should acquire new skills and adapt to technological advancements to remain competitive in the job market.
2. Business educators should learn how collaborate and incorporate AI technologies into their teaching methods to stay relevant.

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