

The Impact of Artificial Intelligence on Daily Life and the Workplace: A Qualitative Statistical Survey in Bangladesh

Md. Ashraful Islam, Syed Rayed Ithmam, & Md. Tanvirul Islam

Abstract

Artificial Intelligence is changing our world day by day. In this research, we investigate how AI is affecting our daily lives and different fields of work. Artificial intelligence is highly affecting our education system, jobs, inventions, healthcare, production, and so on. In our research, we have collected 252 primary data using the qualitative method by setting up different questionnaires on AI-related topics in our day-to-day lives and conducting workspace surveys among different fields of people in the Chattogram region. The objective of this research paper is to find out how AI is affecting our lives and its future impacts on our daily lives and work. Secondary data has been used with relevant literature on different topics in AI that supports our research cause. To analyze the data, different methodologies have been used, such as reliability tests, scale statistics, ANOVA with Cochran's test, T-Square test, KMO, and Bartlett's test. This test will help us discuss and understand the situation of Artificial Intelligence's significance in our lives and the work we do. The research paper will help the reader determine the extent to which "Artificial Intelligence" is affecting our daily lives and places of employment through scientific elucidation and precise data analysis.



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Introduction

Artificial intelligence (AI) is a rapidly evolving field that is transforming various industries, including finance, healthcare, manufacturing, and education. It is being used in various tasks, such as Siri and Alexa, and is transforming industries like finance, healthcare, and manufacturing. AI has the potential to widen skill gaps, polarize the job market, and level the playing field for educational opportunities. It can lead to new learning understandings, modify evaluation methods, and improve teaching effectiveness. In the commercial world, AI applications help businesses with marketing, management, accounting, productivity, trade, advertising, and promotion. Kaur (2023) acclaims that, AI is a multidisciplinary field that automates tasks requiring human intelligence, transforming life. It combines human and computer understanding, enabling faster task completion and promoting environmental progress. AI has already impacted people's lives in various businesses and will continue to do so in the future. AI software aids in data preservation and can present a company's status to investors, enabling informed decisions. The most important aspect of AI in education is in higher education institutions, benefiting students in every stage of learning, writing, and research. However, it is crucial to consider its ethical implications and ensure its use for good and does not pose a threat to humanity. Alan Turing, an American computer scientist, proposed another test of AI, aiming to determine if a machine could reason and make decisions just as intelligently and reasonably as a human. Anant et al. (2022) acclaims that, the main objective of artificial intelligence is to develop technology in an intelligent way. AI completes tasks faster than humans. Artificial intelligence (AI) is the understanding of computers that exhibits human characteristics; yet, these computers and robots support the environment's growth and respond logically to assist people. Cockburn et al. (2019) mentioned Since 2009, there has been a notable movement toward deep learning-based, application-oriented research. IBM created Deep Blue, a chess-playing computer, and Kismet, a comical robot that can communicate with people and make them smile. Haenlein et al. (2019) said that The Trolley Problem is a thought experiment where a hypothetical individual must decide between inaction, which results in the death of many people, and action, which results in the death of just a small number of people. In a future with self-driving automobiles, these challenges will really require decisions from robots and, consequently, their human programmers. Numerous proposals for legislation have been made in response, notably by influential figures like Mark Zuckerberg. Shahar (2018) in his paper explores AI futures work, categorizing tools available to humanities scholars. While no tools reliably predict AI's future, these tools can expand possibilities, reduce surprises, and facilitate constructive conversations. The paper highlights promising tools and calls for more data-driven, realistic, integrative, and participatory scenario role-plays. Chattopadhyay et al. (2020) has mentioned the development of AI for societal benefits can be hindered by inadequate policies, laws, and regulations regarding privacy and security protection for personal data. Good governance and reasonable authority are crucial for societal growth. Ahmad et al. (2023) said that AI adoption in education is increasing, but it raises concerns about loss of decision-making, laziness, and security. AI aids in tasks but also increases security and privacy issues, making users lazy and potentially causing laziness. The Roomba, invented by Richard Wallace, significantly increased the effectiveness of cleaning at home. The Roomba's High-Efficiency Filter can capture 99% of allergens, and its speech recognition function was introduced in 2011. Siri, a virtual assistant that can only be used with voice commands, was released in 2011, offering service delegation, a conversational interface, and personal context awareness. Ahmed et al. (2022) has shown the impact and driven progress in a variety of industries in addition to making life simpler. It influences people's decisions about the exchange and sharing of data and information on a personal level in addition to having an impact on the economic, technical, and social growth of a nation. Watson created by the renowned game program Jeopardy, is a question-response computer program

that can respond to queries in natural language. It enables users to predict and influence future events, automate challenging workflows, and maximize staff productivity. Amazon created Alexa, a virtual assistant that can be used on various platforms, including TVs, speakers, wearable, and in-car monitors. Neha (2023) says that Artificial Intelligence (AI), the science and engineering of creating intelligent machines, particularly computer programs. AI aims to address issues humans cannot perform directly, and advancements in computer science will fundamentally alter the global landscape. Sophia, a humanoid robot developed by Hansen Robotics, can mimic human facial expressions, vocabulary, speech patterns, and thoughts on pre-established themes. She has achieved Saudi Arabian citizenship and was designated the inaugural Innovative Champion by the United Nations Development Program. Gupta (2023) showed that Artificial intelligence (AI) is a subfield of computer science that aims to replicate human behavior in machines, using technologies like robots, natural language, neural networks, and game play. Despite challenges in understanding human behavior, AI research is valuable for advancing technological capabilities. Amper, the first producer, composer, and performer to use artificial intelligence to create and release an album, is a groundbreaking tool used for automated dialogues. The impact of AI on employment is variable and depends on various factors, including time, place, and industry. This research aims to identify the significant impacts of Artificial Intelligence (AI) on various aspects of our daily lives and working environments. David (2020) did a report which emphasizes the important impact of artificial intelligence (AI) on poverty reduction in poverty mapping, agriculture, education, and the banking sector. It advises more investment in artificial intelligence to identify disadvantaged people and their places, replacing traditional home surveys. Aayush et al. (2020) in their paper explores the impact of AI on India's air quality, emphasizing the importance of machine learning, appropriate tools, maintenance approaches, and reducing pollutant sources. It focuses on wealthy countries implementing artificial intelligence into their environmental regulations, with China making substantial progress in improving air quality since 2017. AI is a computer-programmed autonomous simulation capable of computing large numbers of tasks quickly and accurately. Its effects include work, education, agriculture, business, the economy, marketing, and global trends. The qualitative data collected from the Chittagong Region, Bangladesh, is analyzed using various methodologies to determine the extent of AI's impact on these areas. The research focuses on the effects of AI on education, agriculture, healthcare, marketing, entertainment, art, content creation, business idea validation, business plan creation, and understanding legal requirements. The research also explores AI's impact on the global economy, with its contribution in job fields potentially changing the economy drastically. The paper identifies challenges and makes recommendations for completing the research.

Literature Review

The study looks into how AI will impact a number of sectors, such as education, healthcare, entertainment, and agriculture. Artificial Intelligence is progressing rapidly in fields such as computer vision, natural language processing, and machine learning. It has shown promise in addressing problems associated to learning and problem solving. These methods are expected to significantly affect our lives and workplaces in the future. Frontier Economics has been asked by the British Academy and the Royal Society to assess the effects of AI on the workforce by 2030. The review's objectives are to gather information, point out contradictions, and sway policymakers. Low-educated workers are more likely to be impacted by AI employment than higher-educated workers, while highly-educated workers will certainly impact a sizable portion of current jobs. It is anticipated that AI research in areas like machine learning, computer vision, and natural language processing would have a big impact on our daily life. Similar repercussions on contemporary society are anticipated from the impending AI

revolution, raising fears about possible catastrophes like nuclear war, global warming, and uncontrolled epidemics. AI dangers persist despite their low probability, with the potential to terminate human domination and jeopardize global security. With a 70% median score, the PopBots AI platform instructs young children on supervised machine learning, generative AI, and knowledge-based systems. In the future, there will be interactive tests, questioning skills, and robot programming. Fairness, prejudice reduction, and ethical AI design are prioritized by the platform (Cynthia et.al., 2019). This study uses a qualitative research design to investigate the interaction between artificial intelligence (AI), a fast-developing technology that improves productivity, efficiency, and cost savings, and non-tech businesses. AI is mostly applied in the medical field, supply chains, logistics, transportation, and agriculture with the goal of enhancing healthcare and saving lives. The literary analysis is the main methodology. Institutions and organizations are changing quickly due to technology improvements, particularly in the agriculture sector (ABDULLAYEVA,2019). Intelligent machines are made possible by AI practices, which call for education, skill development, and training. AI can be used to specialize in agricultural informatics. For the development of the industry, finding answers is essential (Paul et al., 2017). Through study and development, artificial intelligence is a developing area that mimics and enhances human intelligence. It covers subjects including robotic intelligence, image recognition, and language processing. AI has changed education, bringing about innovations in administration, updating higher education, and simplifying staff training (Xia et al, 2022). A two- to three-fold rise in publications was found in the systematic review of AI in higher education from 2016 to 2022, suggesting new trends in the application of AI. This emphasizes the necessity of more study and advancement in this area. Our lives and the economy are being profoundly impacted by artificial intelligence, and the US and Asia are leading the battle for its advantages. Making better decisions results in the creation of new markets, industries, goods, and services, which raises consumer demand and creates new revenue streams (Marcin, 2019). This study evaluates how artificial intelligence (AI) is affecting worldwide trends, taking into account both macro and micro factors such as the business environment, economics, employment, finance, marketing, and management. It draws attention to the benefits and drawbacks that companies should take into account before implementing AI (Pavaloiu, 2016). From automation to customization, AI marketing is now centered on enhancing client experience and comprehending needs. The current trend in marketing applications has resulted in a rise in the need for customization, responsive design, and dynamic interaction (Jain and Aggarwal, 2020). Business is being revolutionized by AI because it makes marketing strategies more accurate, expedient, and affordable. It helps business owners by increasing competition, audience reaction, and task solving. The influence of AI on Salem entrepreneurs is examined in this study, with particular attention paid to clients, media attention, competitive pressure, and digital maturity. (Palani et al., 2020). The study investigates how Bangladesh's fourth industrial revolution is being impacted by artificial intelligence and the digital economy. It develops policy recommendations for a revised national plan, financial tools, and the emerging digital economy using secondary data and literature. The study highlights the mounting apprehension regarding AI's potential effects on Bangladesh's labor market and job growth (Iqbal et al., 2021). This paper examines business-related AI research, showcasing its advancements and most influential works. It lists eighteen subjects, such as AI systems, approaches, organizational impact, and social impact. The article also addresses issues related to robotics, automated systems, the integration of the Internet of Things, ethics, and legislation. For upcoming business AI research, a research agenda is suggested. Because AI offers so many services and apps, like ride-sharing and email, people's lives have been considerably improved (Loureiro et al., 2020). Even though humanity has long benefited from AI, there are both advantages and disadvantages to this technology. Truly transforming life requires AI algorithms to be in line with human goals as a whole. Rahul

(2016) examined AI's effect on GDP stability and its relationship to capital share and GDP integration, the study looks at how AI affects growth. Zeira's automation model gains possible outcomes for balanced growth with a continuous capital share below 100%, even with practically complete automation, thanks to the introduction of Baumol's "cost disease" insight (Benjamin et al., 2017). This is necessary in order to enable AI to make management decisions. The three organizational and technological issues that we have discussed require immediate, careful, and passionate management action in addition to creative multidisciplinary research (Yash et al., 2022). Artificial intelligence (AI) was developed and used in many different fields as a result of research and inventions made possible by the development and use of computers and computer-related technology (Chen et al., 2020). Numerous AI techniques are available to handle a variety of therapeutic problems. One reason for this is the way doctors feel about using technology to help them make decisions. The rapid growth of AI technology is encouraging optimism and investment in related research (Ramesh et al., 2004). AI has outperformed humans in a number of domains, including chess, product recommendations, and financial news detection. Developing reasoning and inference strategies that balance cost and computation and learning from reward signals are challenging problems. There will be a constant need for research into logical, economic reasoning approaches due to the rapid growth of AI in economically significant applications. When it comes to single-agent or multi-agent artificial intelligence, opinions vary; some consider it to be a distraction, while others support simpler models of computational activity (Parkes and Wellman, 2015). A considerable number of researches have been published as a result of the growing usage of artificial intelligence (AI) in education; yet, no comprehensive reviews have been carried out. Based on 4,519 publications published between 2000 and 2019, this review highlight's themes and patterns in artificial intelligence (AI) applications in education, such as emotion detection, natural language processing, educational robots, intelligent tutoring systems, performance prediction, and neural networks (Chen et al., 2022).

Research Methods

Reliability Test

Cronbach's alpha and coefficient alpha are measures of internal consistency, indicating the consistency of scale items in measuring the same construct. A higher alpha value indicates a better measure of the construct. However, the alpha value is only one measure of reliability, and other measures like test-retest and inter-rater reliability are also crucial. Overall, the reliability statistics example suggests the scale is a good measure of the construct.

ANOVA with Cochran's Test

A statistical test called an analysis of variance (ANOVA) can be performed to compare the means of two or more data groups. By dividing the between-group variance by the within-group variance, the test statistic, or F-value, is computed. If the data is not normally distributed, a non-parametric substitute for ANOVA is the Cochran's Q test. A Q-value, the test statistic, is computed by dividing the total squared deviations from the mean for every group by the number of degrees of freedom.

Hotelling T -Square

A multivariate statistical test called the Hotelling's T-squared test can be used to compare the means of two or more sets of data with different variables. The test statistic is a T-squared value, which is computed by dividing the total squared deviations from the mean for all variables by the number of degrees of freedom.

Principle component Analysis

A substantial amount of the overall variation is explained by the first few components, according to the Principal Component Analysis (PCA) results for a dataset containing responses from women. To decrease dimensionality without sacrificing important information, researchers might decide to keep certain elements. The particular goals and needs of the analysis will determine how many components are kept. According to the PCA results, the data pertaining to female respondents can be effectively utilized for dimensionality reduction and the identification of underlying patterns. The most important factors causing the most variability in the data can be found using the initial eigenvalues and proportions of variance explained.

Results and Discussion

Reliability analysis

Cronbach's Alpha is a measure that evaluates the internal consistency and reliability of a set of items by comparing them to a single construct. Its reported Cronbach's Alpha is 0.793 and its range is 0 to 1. Scale comparability across scales is ensured by the Cronbach's Alpha of 0.825, which is derived from standardized items.

Table 1: Cronbach's Alpha

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.793	.825	20

With 20 items included, the N of Items shows how many items are on the scale used to measure the construct. Cronbach's Alpha is 0.793 in the dependability statistics (presented in table 1), which indicates strong internal consistency. The scale's internal consistency is further supported by Cronbach's Alpha, which marginally rises to 0.825 when standardized items are taken into consideration.

Descriptive Statistics

The responses or scores that participant provide on a series of items that measure a certain construct serve as the basis for the descriptive statistics for a scale. A score's average is represented by its mean.

Table 2: Descriptive Statistics

Mean	Variance	Std. Deviation	N of Items
42.34	78.647	8.868	20

The variance in this instance is 42.34, and it represents the spread or dispersion of scores around the mean. This instance has a variance of 78.647 (shown in table 2). The square root of variance is the standard deviation, which provides a more understandable indicator of the range of scores. 8.868 is the standard deviation in this instance. The scale has twenty items on it. The average score and the distribution of scores over the 20 items are displayed in these data, which offer a glimpse of the participant's reactions on the scale.

ANOVA with Cochran's Test

The table 3 shows ANOVA findings together with Cochran's test, a statistical tool for analyzing differences in group means. Cochran's test checks for variance homogeneity, which is an assumption of ANOVA. The ANOVA analysis involves examining the variability between different groups or participants and assessing significant differences between means.

Table 3: ANOVA with Cochran's Test

		Sum of Squares	df	Mean Square	Cochran's Q	Sig
Between People		987.016	251	3.932		
Within People	Between Items	619.766	19	32.619	658.677	.00
	Residual	3885.384	4769	.815		
	Total	4505.150	4788	.941		
Total		5492.166	5039	1.090		

The sum of squares between people is 987.016, with 251 degrees of freedom. The within-people-between-items part tests for significant differences among items, with 619.766 and 19 degrees of freedom. Cochran's Q is used to check for homogeneity of variance by comparing the largest and smallest variances among groups. The Cochran's Q value is 658.677, indicating significant differences between groups. The residual part represents variability within groups and items that are not explained by the factors being analyzed. The total part represents the total variability in the data, including both between-group and within-group variability. The overall total is 5492.166, with 5039 degrees of freedom.

Hotelling's T-Squared Test

Table 4: Hotelling's T-Squared Test

Hotelling's T-Squared	F	df1	df2	Sig
1816.601	88.754	19	233	.0001

A multivariate statistical technique used to compare the means of two or more groups in many variables is the Hotelling's T-squared test. With a computed value of 1816.601, it assesses the variation in group means across several variables. This test uses the F-statistic, which has an F-value of 88.754 to assess the significance of group mean differences. The p-value of 0.000 suggests that there is a significant variation in the group means among the several variables examined, suggesting that the group means are not equal.

KMO and Bartlett's Test for female respondents

The KMO measure evaluates the sample's adequacy for factor analysis, assessing the proportion of variance in observed variables caused by underlying factors. It ranges from 0 to 1, with higher values indicating better sampling adequacy.

Table 5 : KMO and Bartlett's Test^{a,b}

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.737	
Bartlett's Test of Sphericity	Approx. Chi-Square	639.462
	Df	190
	Sig.	.000

In this case, the KMO value of 0.737 is considered acceptable, with a value above 0.6 considered acceptable and above 0.8 meritorious. So, a KMO of 0.737 indicates that the data is suitable for conducting factor analysis (presented in table 5).

Principal Component Analysis (PCA) for Female respondents

Table 6: Total Variance Explained^a

	Component	Initial Eigenvalues ^b			Extraction Sums of Squared Loadings		
		Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
Raw	1	4.287	29.984	29.984	4.287	29.984	29.984
	2	1.745	12.208	42.192	1.745	12.208	42.192
	3	1.193	8.344	50.536	1.193	8.344	50.536
	4	.956	6.687	57.223	.956	6.687	57.223

	5	.850	5.944	63.167	.850	5.944	63.167
	6	.742	5.190	68.357	.742	5.190	68.357
	7	.688	4.811	73.169			
	8	.533	3.730	76.899			
	9	.521	3.641	80.540			
	10	.475	3.322	83.862			
	11	.455	3.182	87.044			
	12	.374	2.616	89.660			
	13	.283	1.979	91.639			
	14	.251	1.757	93.396			
	15	.245	1.711	95.107			
	16	.224	1.565	96.672			
	17	.191	1.338	98.010			
	18	.147	1.026	99.035			
	19	.103	.721	99.757			
	20	.035	.243	100.000			
Rescaled	1	4.287	29.984	29.984	5.543	27.716	27.716
	2	1.745	12.208	42.192	1.718	8.590	36.305
	3	1.193	8.344	50.536	1.561	7.806	44.111
	4	.956	6.687	57.223	1.307	6.535	50.646
	5	.850	5.944	63.167	1.046	5.232	55.878
	6	.742	5.190	68.357	1.014	5.072	60.950
	7	.688	4.811	73.169			
	8	.533	3.730	76.899			
	9	.521	3.641	80.540			
	10	.475	3.322	83.862			
	11	.455	3.182	87.044			
	12	.374	2.616	89.660			
	13	.283	1.979	91.639			
	14	.251	1.757	93.396			
	15	.245	1.711	95.107			
	16	.224	1.565	96.672			
	17	.191	1.338	98.010			
	18	.147	1.026	99.035			
	19	.103	.721	99.757			
	20	.035	.243	100.000			

Extraction Method: Principal Component Analysis.^a

a. Only cases for which the Gender of the Respondent = Female are used in the analysis phase.

b. When analyzing a covariance matrix, the initial eigenvalues are the same across the raw and rescaled solution.

The Principal Component Analysis (PCA) results for a dataset focusing on female respondents reveal that the first few components explain a significant portion of the total variance. Researchers may retain these components to reduce dimensionality while preserving meaningful information. The decision on how many components to keep depends on the specific objectives and requirements of the analysis. The PCA results suggest that the data from female respondents is suitable for dimensionality reduction and capturing underlying patterns. The initial eigenvalues and proportions of variance explained help identify the most significant components explaining the most variability in the data.

KMO and Bartlett's Test for male respondents

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.794
Bartlett's Test of Sphericity	Approx. Chi-Square	762.822
	Df	190
	Sig.	.000

a. Only cases for which the Gender of the Respondent = Male are used in the analysis phase.

The KMO value of 0.794 indicates suitable data for factor analysis due to reasonable shared variance (presented in table 7). Bartlett's Test evaluates correlations, and the Chi-Square value of 762.822 with 190 degrees of freedom and a low p-value (Sig. = 0.000) indicates meaningful correlations between variables in male respondents' data, indicating a significant difference from an identity matrix.

Principal Component Analysis (PCA) for male respondents

PCA analyzes data with a male sample population, providing information on each main component's eigenvalues, variance proportions, and total percentages. With an eigenvalue of 4.831, component 1 has the largest variance, accounting for 24.155% of the total. 33.524 percent of the variance is explained by components 1 and 2. Lower eigenvalue components capture less variability.

Table 8: Total Variance Explained^a

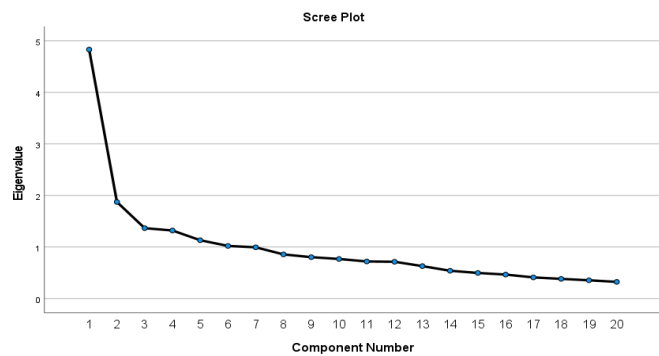
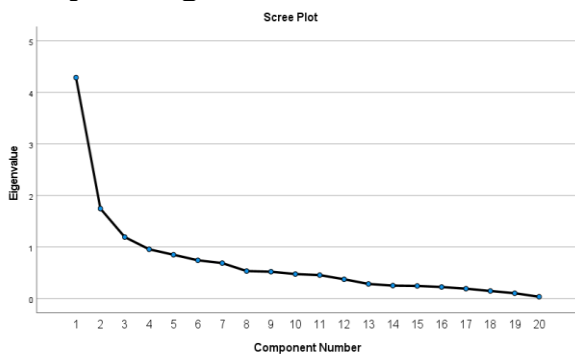
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.831	24.155	24.155	4.831	24.155	24.155
2	1.874	9.369	33.524	1.874	9.369	33.524
3	1.366	6.828	40.353	1.366	6.828	40.353
4	1.321	6.603	46.956	1.321	6.603	46.956
5	1.132	5.658	52.614	1.132	5.658	52.614
6	1.021	5.106	57.720	1.021	5.106	57.720
7	.994	4.972	62.691			
8	.856	4.282	66.974			
9	.803	4.015	70.989			
10	.768	3.840	74.829			
11	.720	3.598	78.427			
12	.714	3.569	81.996			
13	.629	3.147	85.143			
14	.539	2.696	87.839			
15	.497	2.484	90.323			
16	.465	2.326	92.649			
17	.410	2.052	94.701			
18	.382	1.909	96.610			
19	.355	1.773	98.383			
20	.323	1.617	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which the Gender of the Respondent = Male are used in the analysis phase.

By eliminating later components that make up a smaller amount of the variance, the first few components account for a considerable portion of the variance. The application and level of precision required to represent the data while reducing dimensionality determine which components are used.

Scree plot diagram



The eigenvalues of components or factors can be seen graphically with the scree plot, which is utilized in factor analysis and principal component analysis (PCA). The number of components, eigenvalues, and components/factors provide the basis for this. The eigenvalue's magnitude is represented by the plot's height; higher eigenvalues signify greater data variation. Component numbers are shown on the x-axis, which is ordered according to the eigenvalues of each component. Factor analysis on the data from male respondents is deemed satisfactory and is expected to provide significant insights into the underlying relationships between variables, according to the KMO Measure of Sampling Adequacy and Bartlett's Test of Sphericity.

Conclusion

This research investigates the impact of artificial intelligence (AI) on daily life and workplaces in the Chattogram region. The study uses a data-driven approach, collecting primary data through questionnaires and workspace surveys, to provide empirical evidence and real-world insights into AI's perception and utilization in daily life and work. However, the study faces limitations such as sampling bias, self-reported data, temporal constraints, and a qualitative methodology. The research offers a unique regional perspective on AI's impact, serving as a reference point for policymakers, businesses, and educators in the Chattogram region. The data-driven analysis enhances the credibility and reliability of the findings, providing a solid foundation for understanding AI's effects. The reliability statistics test shows Cronbach's alpha of 0.793 and coefficient alpha of 0.825, indicating the scale is a good measure of the construct. However, more detailed information is needed to fully understand the scale. The ANOVA with Cochran's test yields a total sum of squares of 5492.166, a significance level of 0.0001, and a Q-value of not reported. The Hotelling T-squared value is 1816.601, with a significance level of 0.0001. The comprehensive scope covers various areas where AI is making inroads, including education, employment, and healthcare. The study contributes to the scientific understanding of AI's societal impacts by employing rigorous research methodologies. Artificial intelligence (AI) is rapidly transforming various industries, including finance, healthcare, manufacturing, and education. It is used in tasks like Siri and Alexa, and can widen skill gaps, polarize job markets, and improve educational opportunities. AI applications in the commercial world help businesses with marketing, management, accounting, productivity, trade, advertising, and promotion. AI software aids in data preservation and helps investors make informed decisions.

References

- Kaur, P. M. (2023). Artificial Intelligence. *International Journal for Research in Applied Science & Engineering Technology (IJRASET)*, 11, 2321-9653.
- Singh, A., & Haju, W. (2022). Artificial Intelligence. *International Journal for Research in Applied Science and Engineering Technology*, 10, 1210-1220.
- Cockburn, I., Henderson, R., & Stern, S. (2019). The Impact of Artificial Intelligence on Innovation: An Exploratory Analysis. doi:10.7208/Chicago/9780226613475.003.0004.
- Haenlein, M., & Kaplan, A. (2019). A Brief History of Artificial Intelligence: On the Past, Present, and Future of Artificial Intelligence. *California Management Review*, 61, 000812561986492. doi:10.1177/0008125619864925.
- Shahar, A. (2018). Exploring artificial intelligence futures. *Journal of AI Humanities*, 2, 169-194. doi:10.46397/JAIH.2.7.
- Chattopadhyay, H. K., & Majumdar, D. (2020). Artificial intelligence and its impacts on society, 6, 306-310.
- Ahmad, S., Alam, M., Rehmat, M., Irshad, M., Arrano-Munoz, M., & Ariza-Montes, A. (2023). Impact of artificial intelligence on human loss in decision making, laziness, and safety in education. *Humanities and Social Sciences Communications*. doi:10.1057/s41599-023-01787-8.

- Ahmed, M. (2022). Role of Artificial Intelligence in Bangladesh: Current Insights and Future Prospects. *South Asian Journal of Social Studies and Economics*, 14, 8-21.
- Saini, N. (2023). Research paper on artificial intelligence & its applications. *International Journal for Research in Applied Science & Engineering Technology (IJRASET)*, 8(4), ISSN: 2456-3315.
- Gupta, R. (2023). Research Paper on Artificial Intelligence. *International Journal of Engineering and Computer Science*, 12, 25654-20656. doi:10.18535/ijecs/v12i02.4720.
- Mhlanga, D. (2020). Artificial Intelligence (AI) and Poverty Reduction in the Fourth Industrial Revolution (4IR). *Preprints*. doi:10.20944/preprints202009.0362.v1.
- Aayush, K., Vishal, D., Hammad, N., & Ks, M. (2020). Application of Artificial Intelligence in Curbing Air Pollution: The Case of India. *Asian Journal of Management*, 11, 285. doi:10.5958/2321-5763.2020.00044. X.
- Williams, R., Park, H. W., & Breazeal, C. (2019). A is for Artificial Intelligence: The Impact of Artificial Intelligence Activities on Young Children's Perceptions of Robots.
- Abdullayeva, A. (2019). Impact of Artificial Intelligence on Agricultural, Healthcare and Logistics Industries. *Annals of Spiru Haret University. Economic Series*, 19, 167-175.
- Paul, P. (2020). Artificial intelligence and robotics in agriculture and allied areas - A study. *International Journal of Bioinformatics and Biological Science*, 8.
- Xia, X., & Li, X. (2022). Artificial Intelligence for Higher Education Development and Teaching Skills. *Wireless Communications and Mobile Computing*, 2022. doi:10.1155/2022/7614337.
- Pavaloiu, A. (2016). The Impact of Artificial Intelligence on Global Trends.
- Jain, P., & Aggarwal, K. (2020). Transforming Marketing with Artificial Intelligence. doi:10.13140/RG.2.2.25848.67844.
- Velu, P., & B, V. (2020). Role of Artificial Intelligence in Business Transformation. *International Journal of Advanced Science and Technology*, 29, 392-400.
- Iqbal, M., Islam, K. M., Zayed, N., Haque Beg, T., & Shahi, S. (2021). Impact of Artificial Intelligence and Digital Economy on Industrial Revolution 4: Evidence from Bangladesh. *American Finance & Banking Review*, 6, 43.
- Nadikattu, R. R. (2016). The Emerging Role of Artificial Intelligence in Modern Society, 4, 906-911.
- Aghion, P., Jones, B. F., & Jones, C. I. (2017). Artificial Intelligence and Economic Growth. *NBER Working Paper No. w23928*.
- Feuerriegel, S., Shrestha, Y., Krogh, G., & Zhang, C. (2022). Bringing Artificial Intelligence to Business Management (Forthcoming at Nature Machine Intelligence). *Nature Machine Intelligence*, 4, 611-613.
- Chen, L., Chen, P., & Lin, Z. (2020). Artificial Intelligence in Education: A Review. *IEEE Access*, 8, 75264-75278.
- Ramesh, A., Kambhampati, C., Monson, J., & Drew, P. (2004). Artificial intelligence in medicine. *Annals of the Royal College of Surgeons of England*, 86, 334-8. doi:10.1308/147870804290.
- Parkes, D. C., & Wellman, M. P. (2015). Economic Reasoning and Artificial Intelligence. *Science*, 349(6245), 267-272.
- Chen, X., Zou, D., Xie, H., Cheng, G., & Liu, C. (2022). Two decades of artificial intelligence in education: Contributors, collaborations, research Topics, challenges, and future directions. *Educational Technology and Society*, 25(1), 28-47.
- Kachigan, S. (1986). *Statistical Analysis: an interdisciplinary introduction to univariate & multivariate methods*. New York: Radius Press.
- Gocen, A., & Aydemir, F. (2020). Artificial Intelligence in Education and Schools. *Research on Education and Media*, 12, 13-21.
- Makridakis, S. (2017). The Forthcoming Artificial Intelligence (AI) Revolution: Its Impact on Society and Firms.

Crompton, H., & Burke, D. (2023). Artificial intelligence in higher education: the state of the field. *International Journal of Educational Technology in Higher Education*, 20. doi:10.1186/s41239-023-00392-8.

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