ARTIFICIAL INTELLIGENCE AS PERCEIVED BY UNIVERSITY TEACHERS: AN ANALYSIS IN THE LIGHT OF DEMOGRAPHIC VARIABLES

[1*]Dr. Venkateswar Meher
Faculty of Education
Department of Education
Anchal Degree College, Padampur, Odisha, India
venkatesmeher90@gmail.com

[2]Ms Nikita Yadav
Assistant Professor, Department of Education, School of Social Sciences
IFTM University, Moradabad, UP-244102, India
yadavnikita3105@gmail.com

[3]Dr. Pradeep Kumar Tiwari
Head, Department of Education, School of Social Sciences
IFTM University, Moradabad, UP-244102, India
pradeep.tiwari115@gmail.com

[4]Prof. Rajkumari Singh
Director & Dean, Department of Education, School of Social Sciences
IFTM University, Moradabad, UP-244102, India
drrksingh@iftmuniversity.ac.in

ABSTRACT
In the present study, we examined the perception of university teachers towards artificial intelligence in the light of demographic variables like gender, locality, age, teaching experience, and academic streams. We selected approximately 101 teachers from IFTM University, Moradabad as the sample for the study. We collected primary data on teachers' perceptions through online mode using *google forms*. The descriptive result revealed a mixed perception of university teachers about artificial intelligence. There was a significant effect of gender and age on the perception of teachers towards AI, which revealed that the perception of male teachers was higher towards artificial than females. Further, it revealed that the perception of teachers having above-average age was significantly higher than teachers having below-average age. Along with these, the results of the factorial analysis revealed a significant interaction effect of gender*teaching experience, locality*teaching experience, and gender*locality* teaching experience on the perception of artificial intelligence. The results of the study were discussed and implications were derived.
Keywords: Artificial Intelligence; University Teachers' Perception; Demographic Variables; Gender; Locality; Age; Academic Stream; Teaching Experience

Introduction

Artificial intelligence (AI) may be defined as the capacity of a computer or computer-controlled machine for operating high-level tasks. AI is endowed with the intellectual capacities to perform and generalize human activities. AI is embedded with symbolic and connectionist approaches, which are based on the 'top-down' approach and 'bottom up' approach respectively. In this context, the top-down approach mainly analyzes cognition and replicates intelligence in it in relation to the processing of symbols. On the other hand, the bottom-up approach generally creates a neural network in the brain in an artificial setting. It also helps in identifying letters of the alphabet. There are three goals of AI, i.e., strong AI, applied AI, and cognitive stimulation. The strong AI assists in building a machine that becomes able to start thinking, the applied AI assists to produce viable smart systems for diagnosis purposes, and cognitive simulation assists to test theories and models in relation to the working pattern of the human mind. AI is very much broad in its scope that encompasses a wide range of technological and mathematical components (Baker & Smith, 2019). In recent times, AI has influenced every aspect of human life in a positive manner (Adali, 2017). Most of the activities of human beings have been influenced by AI, as it is generally assumed that AI possesses human-specific abilities (Nabiyev, 2005). The application of AI is noticed in different fields related to 'Life Skills' and 'Science-Engineering-Technology-Society-Environment' (SETSE) dimensions in terms of curriculum (Keles & Aydin, 2021).

AI involves higher-order skills like inference, analysis, and decision making and performs tasks related to the human being (Duan et al., 2019; Topol, 2019). The use of AI can be noticed in every aspect of human life,

mostly in the medical field also it shows significant progress related to the identification of diseases and storing and processing of a large amount of medical data (Jantakun & Wannapiroon, 2017; Lathuiliere et al., 2019). According to Jantakoon & Jantakun, (2021), AI has been used in several fields for multiple purposes for providing intelligence services like recognising voice, taking appropriate decision, processing of language, programming in computers, translation, control system, etc. So far as education is concerned, AI has been found progressing significantly. In an educational setting, AI can be implemented in three broad ways i.e., "learner-oriented, instructor-oriented, and institutional system-oriented" (Baker & Smith, 2019). It can be considered a learning management system as it provides academic services like tracking students' academic progress, detecting plagiarism in academic contents, aiding in providing effective instructional strategies, analysing feedback, etc. It has a significant impact on students' learning in terms of recognizing gaps, getting personal support, freeing instruction from manual tasks (Bayne, 2015), developing effective learning practices, and improving technology-enhanced learning (Jantakoon et al., 2019; Jantakoon & Jantakun, 2021). However, the study also shows that people struggle and face difficulties related to the implementation of AI (Kay, 2012). AI can be considered the future of human beings (Minsky, 2006), and in contrast to this AI can also be the reason for disasters in human life and also it may minimise humanity (Hawking et al., 2014). So, in this regard, the question arises "How do university teachers perceive artificial intelligence?".

According to Haseski (2019), pre-service teachers perceive both positive and negative roles of artificial intelligence in the field of education. According to Yeh et al., (2021), people perceive AI as both an opportunity and a risk for the sustainable development of human beings. The study also reveals that people were having high confidence in their knowledge related to the services and products of AI, and they were having a very positive attitude towards AI, but at the same time also some people considered AI risky. The study of AI in an educational context is an emerging concern in the present education system (Roll & Wylie, 2016), although research studies have been conducted since 1980 on AI in education (Self, 2016; Mohammed & Watson, 2019). Research studies related to AI in education reveal that teachers perceive the use of AI as a supporter of education and educational practices (Porayska-Pomsta, 2016; Edwards et al., 2018; Bracaccio et al., 2019). Teachers also perceive AI in terms of creating an intelligent instructional environment and system in the educational setting (Aleven et al., 2016; Chen et al., 2016; Greer & Mark, 2016; Dermeval et al., 2018). Studies on AI also reveal that AI has the potential for performance support and quality evaluation (Santos, 2016; Grivokostopoulou et al., 2017; Rahimi et al., 2017), it helps to discover the potentialities of students and fosters creativity, and also helps teachers to reduce workloads (Bajaj & Sharma, 2018; Liang & Chen, 2018; Xue & Li, 2018).

Most of the above studies focus on the implications of AI in the educational context, where almost all the literature supports the use of AI in education because of its feasibility, and some reveal the same in both positive and negative perspectives. On the other hand, it can be said that along with these potential benefits of AI in the educational context, there is a need to examine the usefulness of AI in the educational context based on the perceptions of the teachers who play a vital role in the implementation of AI in the educational context. As far as available literatures are concerned, a smaller number of studies have been found in the Indian context regarding the perception of university teachers toward AI. In this regard, the present study would be helpful to reveal the perceptions of university teachers towards AI with reference to the frequency of usage, services involved with AI, the significance of AI, and confidence in using AI, which would guide the use of AI in educational setting more efficiently.

Objectives Of The Study

1) To study the level of university teachers' perceptions of artificial intelligence
2) To study the independent and interaction effect of gender, locality, age, academic streams, and year of teaching experience on the perception of university teachers towards artificial intelligence

Hypothesis Of The Study

1) There exists no significant independent and interaction effect of gender, locality, age, academic streams, and year of teaching experience towards artificial intelligence.

Methodology

a) Method: In the present study, the investigators used the descriptive cum comparative method of research to investigate university teachers' perception of artificial intelligence descriptively and compare in terms of demographic variables. Along with this, the factorial design was also used to examine the interaction effects.

b) Participants: The total population of the study consisted of all the teaching staff (near about 400) of IFTM University, Moradabad**.** Out of which, 101 university teachers (near about 25.25%) of the University were taken into account randomly. First of all, three academic streams from the university were selected purposively i.e.,

Arts, Science, and Commerce, then the online link of the questionnaire was sent to all the faculty members of the three streams, and primary data was collected. The age group of the participants ranged from 25-51 years. The data was collected between March 2022 to April 2022. The responses sheet was analysed in terms of the nature of the response given by the participants. Both exclusion and inclusion criteria were followed strictly. Respondents who provided an incomplete response, repeated response, or false response were excluded from the study, and other respondents were included. The following table shows the variable-wise number of samples with percentage.

Table 1. Variable wise distribution of sample with N and percentages

Variables	Levels	N	Percentage
Gender	Male	60	59.4%
	Female	41	40.6%
Locality	Urban	75	74.25%
	Rural	26	25.74%
Age	Above average	53	52.48%
	Below average	48	47.52%
Teaching experience	High teaching experience	53	52.48%
	Low teaching experience	48	47.52%
Academic streams	Arts	33	32.67%
	Science	61	60.39%
	Commerce	07	6.93%

c) Instrument: A perception scale toward Artificial Intelligence was used to collect data. The perception scale towards AI developed by Yeh et al., (2021) was adapted and modified based on the objectives of the present study. The final version of the scale was having 17 items in total. The Cronbach's alpha reliability of the scale was 0.824. The content and face validity of the scale were examined by taking the views of subject experts.

d) Data Collection: In the present study primary data was collected in online mode by using *Google Forms*. First of all, permission was taken from the Directors of the respective streams, then the Online link was sent to all the faculties for the collection of data.

Results

The analysis and interpretation of the data were done in a phased manner as mentioned below.

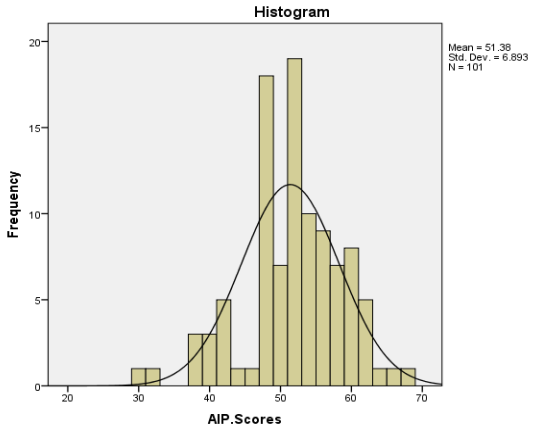
a) Testing Nature of Distribution of Data

Table 2. Results of normality tests

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Perception scores towards Artificial Intelligence	.114	101	.002	.975	101	.048

The above table shows the results of two tests of normality i.e., Kolmogorov-Smirnov and Shapiro-Wilk. The table reveals that the statistical result of the KS test is significant at 0.01 level in terms of perception towards AI with df=101. But the result of the SW test was not significant at 0.01 level. Therefore, it can be assumed that the nature of the distribution of perceptions was normal.

Figure.1 Histogram showing normality of psychological richness data



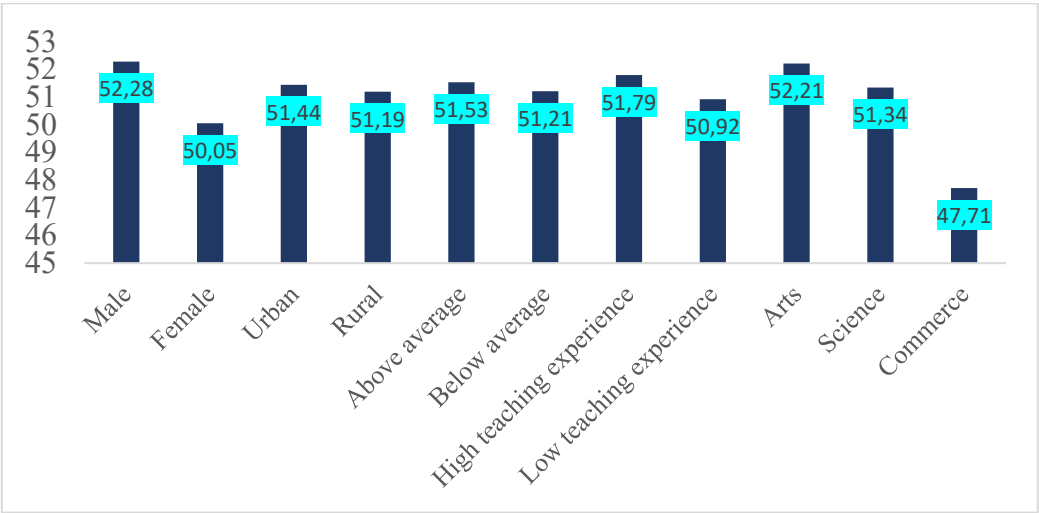
The histogram also shows the nature of the distribution, which is normal. As the nature of the distribution was assumed to be normal, parametric statistical tests like t-test, and ANOVA were used. The analysis and interpretation of the data were done in two major parts i.e., descriptive analysis, and analysis of independent and interaction effects of demographic variables.

b) Variable and parameter wise descriptive analysis

The descriptive analysis of the obtained data was done by using Mean, SD, and N concerning the demographic variables i.e., gender, locality, age, teaching experience, and academic streams. The results of the descriptive analysis are given below.

Table 3. Variable wise descriptive statistics of perception toward AI

Variables	Levels	Mean	Std. Dev.	N
Gender	Male	52.28	6.07	60
	Female	50.05	7.84	41
Locality	Urban	51.44	6.70	75
	Rural	51.19	7.58	26
Age	Above average	51.53	6.47	53
	Below average	51.21	7.40	48
Teaching experience	High teaching experience	51.79	7.38	53
	Low teaching experience	50.92	6.36	48
Academic streams	Arts	52.21	7.25	33
	Science	51.34	6.43	61
	Commerce	47.71	8.90	7



The above table and figure show mean scores of perception of university teachers towards AI with reference to demographic variables. The figure shows that there was a difference in the mean scores of perception of male and female university teachers towards AI, where the perception of male teachers was found to be higher than

female teachers. With regard to locality, it was found that there was a slight difference between the perception of rural and urban university teachers. The table also reveals that the teachers having higher teaching experience were having higher perceptions of AI as compared to teachers having lower teaching experience. As far as age is concerned, there were slight variations in the perception of teachers toward AI. With regard to academic streams, it was found that university teachers of Arts streams were having more positive perceptions followed by teachers of science and commerce streams.

Table 4. Percentage of perception of teachers about the frequency of use of AI

Sl.no	Specifications	Always	Often	Occasionally	Not at all
1.	How frequently do you use Artificial Intelligence products or services in your work or daily lives?	39 (38.61%)	36 (35.64%)	22 (21.78%)	4 (3.96%)
2.	How frequently do you actively understand the new trends in artificial intelligence products and services?	40 (39.60%)	33 (32.67%)	27 (26.73%)	1 (0.99%)
3.	How frequently do you actively learn the way to use Artificial Intelligence products or services?	43 (42.57%)	30 (29.70%)	23 (22.77%)	5 (4.95%)

The above table reveals the perception of university teachers toward AI in terms of its frequency of use. It reveals that about 38.61% of teachers always perceive that they frequently use AI products or services in their work, about 35.64% perceive that they often use AI, 21.78% perceived that they occasionally use AI, and about 3.96% perceive that they don't use at all. About 39.60% of teachers view that they always understand the new trends of AI products and services, 32.67% of teachers understand new trends often, and about 26.73% understand new trends occasionally. The table also reveals that about 42.57% of teachers always learn the way to use AI products and services, 29.70% learn often, and 22.77% learn occasionally. It is vivid that AI is being frequently used by university teachers.

Table 5. Percentage of perception of teachers about services involved with AI

Sl.no	Specifications	Tightly Involved	Moderately Involved	Slightly Involved	Not Involved at all
1.	Social Media(Facebook, Instagram) etc. are involved with Artificial Intelligence.	38 (37.62%)	40 (39.60%)	18 (17.82%)	5 (4.95%)
2.	Web browsers (Chrome, Firefox, Edge) etc. are involved with Artificial Intelligence.	62 (61.38%)	29 (28.71%)	7 (6.93%)	3 (2.97%)
3.	Mobile Payment (Phone Pay, Google Pay), etc. are involved with Artificial Intelligence.	48 (47.52%)	31 (30.63%)	15 (14.85%)	7 (6.93%)
4.	Health Management (Smart watch) etc. are involved with Artificial Intelligence.	41 (40.59%)	32 (31.68%)	18 (17.82%)	10 (9.90%)
5.	Home Appliances are involved with Artificial Intelligence.	21 (20.79%)	46 (45.54%)	23 (22.77%)	11 (10.89%)

The above table reveals the perception of university teachers about services involved with AI. The table shows that about 37.62% of teachers perceive that social media are tightly involved with AI, 39.40% perceive it as moderately involved, 17.82% perceive it as slightly involved and about 4.95% perceive it as not at all involved. As far as the involvement of AI with a web browser is concerned, about 61.38% of teachers perceive as tightly involved, 28.71% perceives moderately involved, 6.93% perceived slightly involved, and about 2.97% perceive it as not at all involved. About 47.52% of teachers perceive that mobile payments are tightly involved with AI, 30.63% perceive it as moderately involved, 14.85% perceive it as slightly involved and about 6.93% perceive it as not at all involved. With regard to the involvement of health management with AI, about 40.59% of teachers perceive as tightly involved, 31.68% perceive it as moderately involved, 17.82% perceive it as slightly involved and 9.90% perceive it as not at all involved. As far as the involvement of home appliances with AI is concerned,

about 45.54% of teachers perceive it as moderately involved, 22.77% perceive it as slightly involved, 20.79% perceive as tightly involved, and about 10.89% perceive it as not at all involved. From this data, it is clear that university teachers believe in active involvement in the services with AI.

Table 6. Percentage of perception of teachers towards the significance of AI

Sl.no	Specifications	Strongly Agree	Agree	Disagree	Strongly Disagree
1.	Artificial Intelligence improves the efficiency of human society and thus rules human beings.	33 (32.67%)	54 (53.46%)	12 (11.88%)	2 (1.98%)
2.	Artificial Intelligence allows people to have more time to realize their dreams.	23 (22.77%)	68 (67.32%)	10 (9.90%)	0
3.	Artificial Intelligence offers solutions to complicated problems.	37 (36.63%)	53 (52.47%)	11 (10.89%)	0
4.	Artificial Intelligence changes lay people's decision-making capacity.	28 (27.72%)	63 (62.37%)	10 (9.90%)	0
5.	Artificial Intelligence increases the unemployment rate.	20 (19.80%)	55 (54.45%)	24 (23.76%)	2 (1.98%)

The above table reveals the perceptions of university teachers about the significance of AI. The table reveals that about 53.46% of teachers do agree that AI improves the efficiency of human society that rules human beings, 32.67% strongly agree with it, 11.88% disagree with it and about 1.98% do not agree with it. About 67.32% of teachers agree that AI allows people to have more time to realize their dreams, 22.77% strongly agree with it, but 9.90% do not agree with it. About 52.47% of teachers do agree that AI offers solutions to complicated problems, 36.63% strongly agree with it, but 10.89% do not agree with the same. As far as the changes in the decision-making capacity of people due to AI is concerned, about 62.37% of teachers do agree with it, 27.72% do strongly agree, but 9.90% of teachers do not agree with it. With regard to the increase in the unemployment rate because of AI, about 54.45% do agree with it, 19.80% strongly agree with it, but 23.76% disagree with it and about 1.98 strongly disagree to the same. From the table, it is clear that most of the teachers do agree about the significance of AI in their life.

Table 7. Percentage of perception of teachers about confidence with AI

Sl.no	Specifications	Extremely Confident	Confident	Not Confident	Not Confident at all
1.	Personal data can be well protected through Artificial Intelligence.	10 (9.90%)	47 (46.53%)	39 (38.61%)	5 (4.95%)
2.	Automatic cars will not risk road safety.	8 (7.92%)	35 (34.65%)	53 (52.47%)	5 (4.95%)
3.	Artificial Intelligence can be used for military purposes.	32 (31.68%)	49 (48.51%)	16 (15.84%)	4 (3.96%)
4.	Artificial Intelligence will not decide to eliminate human being.	15 (14.85%)	45 (44.55%)	38 (37.62%)	3 (2.97)

The above table reveals the perception of teachers about their confidence in AI. About 46.53% of teachers are confident that personal data can be well protected through AI, but 38.61% are not confident about the same. About 52.47% of teachers are not confident that automatic cars will not risk road safety, whereas 34.65% are confident about it. As far as the use of AI for military purposes is concerned, about 48.51% of teachers are confident about the same, 31.68% are extremely confident, and 3.96 are not at all confident. About 44.55% of teachers are confident that AI will not decide to eliminate human beings, about 14.85% are extremely confident, but 37.62% are not confident about the same. From the table, it is clear that university teachers are having mixed responses regarding their confidence in AI.

c) Analysis of Independent and Interaction Effect

In the present study, five demographic variables were taken into account i.e., gender, locality, teaching experience, academic streams, and age of university teachers. By taking these variables both independent and interaction effects on the perception of university teachers were studied applying ANOVA.

Table 8. Sum of the square, df, mean square, F, and Sig. value of perceptions based on demographic variables

Factors	Sum of Square	df	Mean Square	F	Sig.	Remark
Gender	207.884	1	207.884	5.21**	.025	P<0.05
Locality	37.190	1	37.190	.93	.337	ns
Age	184.947	1	184.947	4.64**	.035	P<0.05
Teaching experience	108.830	2	54.415	1.37	.262	ns
Academic streams	139.759	1	139.759	3.58	.065	ns
Gender * Teaching experience	341.980	1	341.980	8.58*	.005	P<0.01
Locality * Teaching experience	174.248	1	174.248	4.37**	.040	P<0.05
Gender * Locality * Teaching experience	219.717	1	219.717	5.51**	.022	P<0.05

* significant at 0.01 level
** significant at 0.05 level
ns: not significant

Table-10 depicts the independent and interaction effect of demographic variables on the perception of university teachers towards AI. The F-values of perception of university teachers towards AI in terms of gender and age were found to be 5.21 and 4.64, which were significant at 0.05 level with df=1/72 and 2/72 respectively. Thus, there was a significant effect of gender and age on the perception of teachers towards AI. Based on the mean scores of perception in terms of gender, it was found that the mean score of male teachers was 52.28 which was significantly higher than females, so male teachers highly perceive AI as compared to females. The mean score of perception of teachers having above-average age was 51.53, which was significantly higher than teachers having below-average age, so it can be concluded that university teachers having above-average age highly perceives AI. However, the F-value of locality, teaching experience, and academic streams were not significant, so it was concluded that there was no significant effect of these variables on the perception of AI.

As far as the results of the factorial analysis are concerned, a significant interaction effect was found in the case of Gender * Teaching experience, Locality * Teaching experience, and Gender * Locality * Teaching experience. The following tables explain the results of significant interaction effects.

Table 9. Interaction effect of Gender and Teaching experience on the perception of teachers

Gender	Teaching experience	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Male	Low Teaching Experience	51.260[a]	1.685	47.902	54.618
	High Teaching Experience	53.474[a]	1.445	50.594	56.355
Female	Low Teaching Experience	49.114[a]	1.779	45.567	52.661
	High Teaching Experience	44.757[a]	1.909	40.952	48.562
a. Based on modified population marginal mean.					

The F-value of the interaction effect of gender and teaching experience was found to be 8.58, which was significant at 0.01 level with df=1/72. This revealed a significant interaction effect of gender and teaching experience on the perception of university teachers towards AI. Thus, the null hypothesis that there is no significant interaction effect of gender and teaching experience on the perception of teachers towards AI is rejected. Based on the mean scores of perception towards AI in terms of gender and teaching experience, it can be concluded that the mean scores of perception of male teachers having higher teaching experience were found to be 53.47, which is significantly higher compared to others. So, it can be said that male university teachers having higher teaching experience perceive AI highly.

Table 10. Interaction effect of locality*teaching experience on the perception of teachers

Locality	Teaching experience	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Urban	Low Teaching Experience	50.410[a]	1.350	47.718	53.102
	High Teaching Experience	49.643[a]	1.415	46.823	52.464
Rural	Low Teaching Experience	50.125[a]	2.564	45.013	55.237
	High Teaching Experience	49.143[a]	2.053	45.051	53.234
a. Based on modified population marginal mean.					

The F-value of the interaction effect of locality and teaching experience was found to be 4.37, which was significant at 0.05 level with df=1/72. This revealed a significant interaction effect of locality and teaching experience on the perception of university teachers towards AI. Thus, the null hypothesis that there is no significant interaction effect of locality and teaching experience on the perception of teachers towards AI is rejected. Based on the mean scores of perception towards AI in terms of locality and teaching experience, it can be concluded that the mean scores of perception of urban teachers having lower teaching experience were found to be 50.41, which is significantly higher compared to others. So, it can be said that urban university teachers having lower teaching experience perceive AI highly.

Table 11. Interaction effect of Gender * Locality * Teaching experience on perception

Gender	Locality	Teaching experience	Mean	Std. Error	95% Confidence Interval	
					Lower Bound	Upper Bound
Male	Urban	Low Teaching Experience	49.952	2.008	45.949	53.956
		High Teaching Experience	53.277[a]	1.883	49.522	57.031
	Rural	Low Teaching Experience	53.875[a]	3.067	47.760	59.990
		High Teaching Experience	53.738[a]	2.250	49.254	58.223
Female	Urban	Low Teaching Experience	50.960[a]	1.737	47.497	54.422
		High Teaching Experience	46.010[a]	2.112	41.799	50.222
	Rural	Low Teaching Experience	44.500[a]	4.464	35.602	53.398
		High Teaching Experience	42.250[a]	3.866	34.544	49.956
a. Based on modified population marginal mean.						

The F-value of the interaction effect of gender, locality, and teaching experience was found to be 5.51, which was significant at 0.05 level with df=1/72. This revealed a significant interaction effect of gender, locality, and teaching experience on the perception of university teachers towards AI. Thus, the null hypothesis that there is no significant interaction effect of gender, locality, and teaching experience on the perception of teachers towards AI is rejected. Based on the mean scores of perception towards AI in terms of gender, locality, and teaching experience, it can be concluded that the mean scores of perception of male university teachers in rural areas having lower teaching experience were found to be 53.88, which is significantly higher as compared to others. So, it can be said that male university teachers in rural areas having lower teaching experience perceive AI highly.

Discussion, Limitation, Future Direction, And Conclusion

The descriptive analysis of the present study revealed mixed perceptions of university teachers towards AI, where some sorts of differences were noticed in the perceptions of teachers with reference to key parameters like frequency of usage, the significance of AI, confidence, and involvement with AI-based on demographic variables like gender, locality, age, teaching experience, and academic streams. But most teachers do agree that

AI has a significant contribution to human life in many aspects. These findings have been supported by different empirical evidence (Ekici, 2014; Adali, 2017; Baker & Smith, 2019; Haseski, 2019; Lathuiliere et al., 2019). In contrast to this, related research also revealed negative perceptions of the people about AI which were richer than the positive perceptions (Keles, 2021). It could be due to the thinking of people that AI applications are entering into human life rapidly and influencing their attitude, behaviour, and psychological constructs to a great extent.

The present study revealed a significant effect of gender and age on the perception of teachers towards AI, where it was found that the perceptions of make teachers and teaching having above-average age was significantly higher as compared to the other groups. This could be due to the frequency of using AI-related services and products in their daily life. However, the study revealed no significant effect of locality, teaching experience, and academic streams on the perceptions of teachers towards AI. These findings may be retested by taking a larger sample size and controlling the effect of other factors associated with it.

The present study also revealed that the perception of male teachers having higher teaching experience was significantly higher as compared to others. So, it was concluded that male university teachers having higher teaching experience perceive AI highly. The study also made it clear that the perception of urban teachers having lower teaching experience was found to be significantly higher as compared to others. So, it revealed that urban university teachers having lower teaching experience perceive AI highly. This could be due to the frequent use of technological devices embedded with AI by the fresher faculty members belonging from urban areas. As far as the locality is concerned, in urban areas, we notice advanced technological devices and supporting infrastructure in almost all fields, but in rural areas, it is not so. Similarly, if we analyze the age as a factor of AI, we see that previously people were not aware of the use of technological devices in all contexts, the development of its uses occurred gradually, so the teachers having higher age may not have developed a more positive attitude towards AI.

Further, the present study also reveals that the perception of male university teachers in rural areas having lower teaching experience was found to be significantly higher as compared to others. So, it was concluded that male university teachers in rural areas having lower teaching experience perceive AI highly. Here, we can hypothesize that rural male teachers having lower teaching experience may be using and enjoying smartphones to a great extent and able to do most complicated work very easily i.e., booking a ticket, online payment, communication, acquainted with news, etc. because of AI. So, they might have developed a sense of positivity towards AI.

However, it is noticed that people often demonstrate various meanings to the concept of artificial intelligence in different ways (Haseski, 2019), but most of the studies made it clear that AI is based on independent decision making depending upon situational characteristics (Kulkarni & Joshi, 2015; Chand, 2018; Verma & Kumar, 2018), which assist to make human life convenience (Mishra, 2011; Warwick, 2012; Kaplan, 2016). The analysis of related kinds of literature and the findings of the present study revealed that people are having both positive and negative emotions regarding AI, but in the case of people of higher age negative emotions are noticed higher as such people do not wish to live their life in such technological context. It is a fact that studies revealed AI as a risk for personal and social life (Russell et al, 2015; Scherer, 2015), but still, some people feel happy to live with AI happily. Apart from these, studies also reveal the opportunities provided by AI to a great extent in terms of solving problems of human life and bringing welfare to human life (Skouby & Lynggaard, 2014; Kopec et al., 2016). As far as the perception of teachers in this study is concerned, we found that teachers are in favour of AI for the benefit of human beings, this finding was supported by empirical pieces of evidence (Sotala, 2012; Sen, 2018). On the other hand, some studies are against AI and consider it risky (Muller, 2016, Parnas, 2017; Turchin & Denkenberger, 2018).

Moreover, this present study has some limitations also, that in the study only working teachers working in IFTM University were taken into account as a sample, and demographic variables like gender, locality, age, teaching experience, and academic streams were taken into account. So similar studies can be conducted by taking a larger sample size and taking teachers and students of a diverse group of different areas. Qualitative studies can be undertaken regarding the perception of teachers and students about AI and in-depth data may be gathered for the same. Teachers working at different levels of education may be taken into consideration and a mixed-method study can be done in this regard. Experimental studies can be undertaken to examine the effectiveness of AI in terms of the educational achievement of students and the teaching competence of teachers.

Based on the findings of the present study it can be said that AI is having wide educational implications, particularly for teachers and students in the educational context with reference to lesson planning, lecturing, classroom-related activities, constructivist learning, individualized instruction, analyzing strength and weakness,

managing classroom, evaluating teaching and learning, etc. (Liang & Chen, 2018; Catlin & Blamires, 2019; Mu, 2019). Realizing the development of technological interventions in the present context, it can be suggested that AI has the potential to make human life easy and develop work culture in the organization, but its regulative use is the need of the hour for the benefits of the mass. The study of AI should be included in the curriculum of higher education students. appropriate training should be given to the teachers to use AI in an educational context in a regulative way.

Author contribution

Dr. Singh conceived the research ideas and prepared the introductory section. Dr. Tiwari assisted in the fieldwork of data collection in online mode and requested the participants for giving their valuable responses in time. Dr. Meher, Dr. Tiwari, and Ms. Yadav did the scoring, analyzed the data, and completed the reporting section in all aspects. All authors read and approved the final manuscript.

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No potential conflict is reported in the study.

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