

RESEARCH PAPER

# Future Direction of Intelligent Human Resources Management Applications in Employee Performance Measurement and Data Analysis in the Industrial Sector in Jordan

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## ABSTRACT

*The world today gives much importance to human resource management which is viewed as the gate towards effective performance. In this respect, the application of intelligent human resources management increases the effectiveness of HRM and brings about effective performance. Given the importance of this topic, this study sought to evaluate the future direction of intelligent human resources management applications in employee performance measurement and data analysis in the industrial sector in Jordan. It specifically evaluated the effect of intelligent human resources management applications (recruitment and talent acquisition, learning and development, benefits and incentives, workforce planning and improvement) on measuring the performance of employees and analyzing data in the Jordanian industrial sector. This research used the descriptive-inferential method (Inductive Descriptive Methodology). The population included all employees in the supervisory authorities of the 33 industrial companies listed on the ASE, while the sample includes 146 participants. This research found that human resources management applications directly affect measuring the performance of employees and analyzing data in the Jordanian industrial sector. The novelty of this research is that, unlike the previous studies like Al-Wakeel and Ibraheem (2020) and Wang (2024) that were applied to samples from different countries other than Jordan, it specifically addresses the effect of HRM practices on measuring the performance of employees and analyzing data in the Jordanian industrial sector. This research provides the Industrial Sector in Jordan with the necessary knowledge of the future directions of intelligent human management. Adopting intelligent human resource management is deemed important for the Jordanian industrial sector. It is very important to carry out this research to highlight the effect of human resources management applications on measuring the performance of employees and analyzing data in the Jordanian industrial sector..*

**KEYWORDS:** *Intelligent HRM applications; Employee performance measurement; Data analysis; Industrial sector in Jordan.*

## 1. Introduction

Human capital is one of the key elements that significantly influence the success or failure of an organization. Therefore, the development of this important element stems from the importance of the goals of any organization as organizations seek

to achieve their goals and visions in an effective and uncostly manner. This requires looking for the best tools and techniques that help in increasing the performance of employees at those organizations. One of these techniques is represented in adopting human resource

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management applications.

### **1.1. Problem statement**

Jordan is one of the developing countries that aspire to achieve organizational development and devote its resources to achieve this goal. Moreover, the industrial sector in Jordan grows rapidly and this growth is associated with developments. In this respect, the kingdom has taken great steps ahead to develop its industrial sector. However, the rapid advancement in the field of technology and the emergence of artificial intelligence as a technological revolution must force organizations to adapt to changes and update their means and administrative systems so as to cope with these developments.

Therefore, this study is motivated by this point as it seeks to answer the questions and achieve the objectives included in the next sub-sections.

### **1.2. Research questions**

This research will answer the following main question:

- What is the future direction of intelligent human resources management applications in employee performance measurement and data analysis in the industrial sector in Jordan?

It also ventures to answer the following sub-questions:

1. What is the future direction of recruitment and talent acquisition in measuring the performance of employees and analyzing data in the Jordanian industrial sector?
2. What is the future direction of learning and development in measuring the performance of employees and analyzing data in the Jordanian industrial sector?
3. What is the future direction of benefits and incentives in measuring the performance of employees and analyzing data in the Jordanian industrial sector?
4. What is the future direction of workforce planning and improvement in measuring the performance of employees and analyzing data in the Jordanian industrial sector?

### **1.3. Research objectives**

This research will achieve the following main objective:

- To evaluate the future direction of intelligent human resources management applications in employee performance measurement and data analysis in the industrial sector in Jordan.

It also ventures to achieve the following sub-objectives:

1. To evaluate the future direction of recruitment

and talent acquisition in measuring the performance of employees and analyzing data in the Jordanian industrial sector.

2. To evaluate the future direction of learning and development in measuring the performance of employees and analyzing data in the Jordanian industrial sector.

3. To evaluate the future direction of benefits and incentives in measuring the performance of employees and analyzing data in the Jordanian industrial sector.

4. To evaluate the future direction of workforce planning and improvement in measuring the performance of employees and analyzing data in the Jordanian industrial sector.

### **1.4. Research significance**

This research contributes to a better understanding of the ways in which intelligent human resources management applications are used in employee performance measurement and data analysis in the industrial sector in Jordan. The findings of this study will extend beyond the confines of the industrial field. It will be helpful in determining which intelligent HRM practices lead to enhanced employee productivity. Much significantly, academics may find the study helpful in comparing the effects of Intelligent -HRM practices on various aspects of organizational performance.

## **2. Literature Review**

The expected benefits of artificial intelligence and the investment of time, effort and resources for organizations have been the focus of recent studies on human resource management. In this respect, organizations focus intelligent HRM to enhancing business productivity by optimizing business operations and resources [51], business model transformation/re-engineering [1], decision-making through predictive intelligence [2], reducing employee costs and enhancing employee experience, job satisfaction and customer service [3], achievement of competitive advantage [4]. Significantly, AI contributes to the TA of an organization [5]. Intelligent recruitment quality can be described as the quality and potential of human capital that can be accessed in the shape of a larger pool through social media recruiting technology [6, 7]. Some studies have focused on E-HRM implementation, cost-reduction, improvement in the HR function's efficiency, and development and advancement of strategic orientation [8], while other studies focused on empowering employees on their entrepreneurial attitudes [9], involvement powerful factor for

productivity growth [10].

The best example of using artificial intelligence in human resource recruitment is evident through the way adopted by IBM and Microsoft in selecting the right employees [11]. Club Med also looks at employee data to determine job satisfaction factors [12].

Covid-19 pandemic was of great importance in realizing the urgent need to complete work remotely. It forced all sectors to pay attention and focus on electronic management [13].

The work of artificial intelligence for Human Resource Management doubles in its ability to create value for consumers, employees and organizations [14]. Therefore, managers of modern organizations have realized the importance of reducing the turnover of employees in talent management by taking advantage of the analysis of employee database data. It is important to note that the criteria that will be applied in order to evaluate the performance have already been established [15].

According to a study by Oracle Foundation and future Workplace, the use of artificial intelligence is increasing in 2023 as HR managers try to be more efficient by using fewer resources and time. In this regard, artificial intelligence has been increasingly used in human resources processes such as recruitment, identifying gaps in workforce skills, analyzing survey data, responding to employee inquiries regarding vacations, payroll, etc. Companies are actively seeking to adopt digital technology and human resources [16].

[17] comments that HRM emerges as essential in supporting the enhancement of the maturity of performance measurement and the improvement of performance management. This is achieved through focusing on the effectiveness of the selection of suitable personnel with job requirements [18], [19]. Significantly, the Electronic Development of Human Resources has contributed to providing training and development opportunities and training programs that enhance the skills and abilities of employees. It ultimately encourages innovation and creativity in addition to motivating employees by providing a positive work environment and motivational programs [20]. Electronic Human Resources Management (HRM) has a major role in raising the employees performance in addition to motivating employees by providing a positive work environment and motivational programs [21].

The novelty of this research is evident through being the first research of its kind to target samples from Jordan. It is distinguished by specifically addressing the effectiveness of intelligent human

resources management in increasing employee performance and the effect of HRM practices on measuring the performance of employees and analyzing data in the Jordanian industrial sector. Thus, it provides the Industrial Sector in Jordan with the necessary knowledge of the future directions of intelligent human management.

## **2.1. Previous studies**

A number of studies discussed topics related to human resources applications and their relationship to performance, whether directly or indirectly, as every work performed in organizations affects the performance of employees. In this respect, [22] wrote an article that discussed the impact of Internet of Things applications and machine learning on human resources intelligence in manufacturing enterprises. The article provided appropriate operational models for enterprises, and work on analyzing human resource management problems. Apart from this, [23] discussed the role of emotional intelligence in participation and inclusiveness and focused on emotional intelligence, mental health of employees, the effectiveness of simulations, smart robots and chatbot surveys in engaging employees.

[24] analyzed the relationship between Artificial Intelligence and effective Human Resources Management. The findings reflected a strong connection between Artificial Intelligence and effective Human Resources Management. Apart from this, [25] investigated the application of AI in Human Resource Management and Gen Y's Reaction. The results proved the hypothesis that AI is effective in improving HRM.

[26] carried out a research on Smart HRM 4.0 for Achieving Organizational Performance, and the findings revealed the effectiveness of adopting Smart HRM 4.0 in achieving organizational performance.

[27] investigated Human Resource Management in Public Administration. The study mainly focused on the Performance Measurement and Emotional Intelligence in the Workplace in Albanian Public Institutions. [28] carried out a research on Business Intelligence applied to Human resources management. [29]. Carried out a research on the design and analysis of Human Resources using Artificial Intelligence. [30] studied the application of Artificial Intelligence in Human Resource Management Practices. [31] investigated the application of artificial intelligence on human resource management in information technology industry in India. [32] studied the impact of HRM digitalization on

employee performance in the RMG Industry of Bangladesh. [33] carried out a research on Enterprise Human Resource Management Model by Artificial Intelligence Digital Technology. [34] carried out a research entitled "from traditional to smart human resources management".

[35] investigated the impact of artificial intelligence on human resource management systems. The study mainly examined the applications and risks of using artificial intelligence to manage human resources. [36] carried out a research on intelligent human resource information system (i-HRIS). [37] examined Human Resource Management and Artificial Intelligence. [38] examined digital human resource management: prospects and challenges for garments industries in Bangladesh. All these studies have proved the effectiveness of using artificial intelligence in HRM.

[39] examined human resources management practices and their impact on talent management in Jordanian commercial banks. The findings revealed the positive impact of innovation on human resources applications. It also emphasized the existence of a positive relationship between human resources management practices (training and development, wages and incentives, performance evaluation) and management innovation in Jordanian commercial banks.

[40] carried out a research on HRM machine learning applications, and revealed that its strength emerged in the areas of recruitment, performance management and the use of decision tree in the classification of all human resources management functions. Apart from this, [41] stands as an important decision-making reference and service support for HRM of university teachers and further promote the development of HRM innovation of university teachers.

[42] provided a future perspective of using AI to better understand the attitudes and perspectives of HR practitioners within multiple frameworks. The study intends to bring attention to the implementation of Bahrain's Vision 2030 in the public sector development through digital transformation in the workforce composition in business organizations. In a similar context, [43] shed light on the influence that HRM practices have on the performance of service quality in Saudi Arabia. The research sample included 270 individuals, and the descriptive analysis was used. The findings revealed a connection between the management practices of human resources and the efficiency of the service quality.

[44] analyzed the relationship between EHRM applications and direct and indirect employee

performance and explained that the quality of human resources services as a mediating variable has a great value and dominance.

Another study was carried out by [45] who focused on taking advantage of productivity to apply transformational electronic human resources management by directing front-line managers to use easily available artificial intelligence productivity tools to achieve performance, in addition to the ability of organizations to adapt and strategic flexibility.

[46] notably investigated whether or not the "job analysis, recruitment, and selection applications, performance appraisal applications, and communications capabilities" of HRIS had a substantial impact on the performance of the company. The results revealed that the introduction of "human resource management systems" (HRMS) improved the operational efficiency of organizations and businesses.

The previous studies reviewed here have shown that the topic of intelligent human resources management applications in employee performance measurement and data analysis in the industrial sector in Jordan is of interest to a wide variety of businesses, including the industry sector. In addition, this current study is distinguished from previous studies in the dimensions that the study focused on and the sector of application of the study.

After reviewing the important previous studies and realizing the research gap, the following Hypotheses are proposed:

The Main Hypothesis: There is no statistically significant effect at the level ( $\alpha \leq 0.05$ ) of intelligently human resources management applications (recruitment and talent acquisition, learning and development, benefits and incentives, workforce planning and improvement) on measuring the performance of employees and analyzing data in the Jordanian industrial sector".

Ho.1.1: There is no statistically significant effect at the level ( $\alpha \leq 0.05$ ) of the employment and talent acquisition on measuring the performance of employees and analyzing data in the Jordanian industrial sector".

Ho.1.2: There is no statistically significant effect at the level ( $\alpha \leq 0.05$ ) of the learning and development on measuring the performance of employees and analyzing data in the Jordanian industrial sector".

Ho.1.3: "There is no statistically significant effect at the level ( $\alpha \leq 0.05$ ) of the benefits and incentives on measuring the performance of employees and analyzing data in the Jordanian industrial sector".

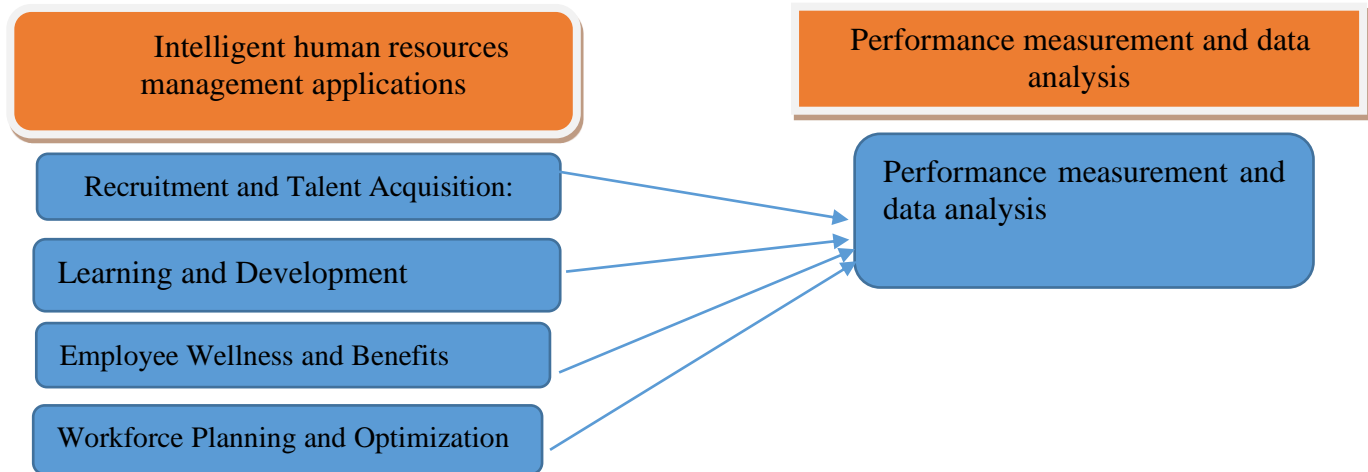
Ho.1.4: "There is no statistically significant effect

at the level ( $\alpha \leq 0.05$ ) of the planning and improving the workforce on measuring the performance of employees and analyzing data in the Jordanian industrial sector.

Therefore, this research examines the effect of intelligent human resources management

applications (recruitment and talent acquisition, learning and development, benefits and incentives, workforce planning and improvement) on measuring the performance of employees and analyzing data in the Jordanian industrial sector. This is represented in figure 1 below.

## 2.2. Study model



**Fig. 1. Source: The researcher**

## 3. Methodology

This study utilised a descriptive-analytical technique to offer a thorough and precise depiction of the topic matter. The main objective was to evaluate the influence of several aspects of Intelligent Human Resources Management Applications in Employee Performance Measurement and Data Analysis in the Industrial Sector in Jordan. Moreover, this study adopted the descriptive-inferential method (Inductive Descriptive Methodology) and this method is based on the interpretation of the studied phenomenon, relying on all the facts and data, classifying them, and then processing and analyzing the data to derive their significance and reach conclusions or generalizations about the phenomenon or problem [47].

### 3.1. Population and sample

The study population is represented in all employees in the supervisory authorities of the 33 industrial companies listed on the ASE (Ase.com.jo/ar). The inspection and analysis unit included (managers, their assistants or their deputies, heads of departments, and main supervisors), and according to the Human Resources Department of each company, their number is estimated at (223) employees. The

sample was selected according to the purposeful/intentional sample style (positive Sample) addressed to employees in the supervisory authorities in industrial companies. The retrieved (146) questionnaires were all subjected to statistical analysis, and this number is representative of the study population, according to the sample table prepared by [47], which showed that the appropriate sample number for a population of (223) is (142).

### 3.2. Data collection sources

Secondary sources such as books, literature, scientific periodicals, and related specialized publications were used to collect the data for the study. Various databases that supported the study and electronic sources on the internet were also utilized in the study. The study based its primary sources on the Questionnaire, which was created proportionately to the variables and dimensions of the study. It also employed the (five Likert Scale) as a measurement.

### 3.3. Data analysis

The stability of the research tool:

This was tested by computing Cronbach's Alpha coefficient, which measures the internal consistency of the study items. The findings of this investigation are displayed in Table (1).

**Tab. 1. Results of the stability test of the study instrument**

Variables	Dependent		Independent				
	Performance measurement and analysis	intelligent human resources management applications	Recruitment and Talent Acquisition:	Learning and Development	Employee and Wellness and Benefits	Workforce Planning and Optimization	Total Indicator
Cronbach Alpha	.880	.915	.880	.879	.828	.861	0.938
No. of paragraphs	7	26	7	6	7	6	33

Table (1) displays the Cronbach's Alpha values for the scale paragraphs, which varied from (82.8% - 91.5%). The total stability coefficient for all scale items was ((93.8%). In this respect, [48] has explained that the acceptable limit of the stability coefficient (Cronbach Alpha) is (0.70) and therefore all the internal consistency coefficients listed in the table above is a good indicator of the stability of the study instrument and its reliability in statistical analysis.

### 3.3.1. Normal distribution test

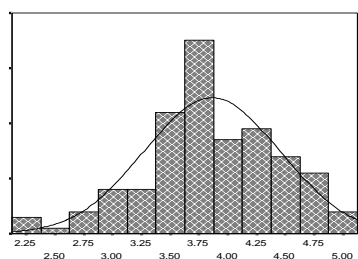
The kurtosis and skewness coefficients have been computed to assess whether the data adheres to a normal distribution. The degree of overexertion of the data from the average value indicated by the coefficient of skewness reveals that the overexertion value does not exceed  $\pm 1.96$ . The distribution can be considered normal. The coefficient of skewness measures how much the data values deviate from the average in a specific direction, either to the right or to the left. If the value falls outside the range of  $\pm 1$ , it indicates a significant skewness in the distribution [49].

**Tab. 2. Kurtosis & skewness test results**

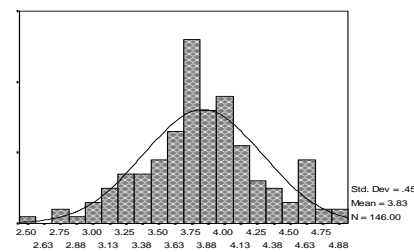
Variables	Recruitment and Talent Acquisition	Learning and Development	Employee Wellness and Benefits	Workforce Planning and Optimization	Intelligent Human Resources Management Applications	Performance Measurement and Data Analysis
Kurtosis	-0.487	-0.272	-0.270	-0.267	-0.060	-0.326
Skewness	0.133	-0.281	0.200	-0.322	0.176	0.225

Based on the test data shown in Table (2) and Figure (2), which indicates that the data distribution was normal as the Kurtosis value did

not exceed  $\pm 1.96$  and the Skewness values did not fall outside the  $\pm 1$  range.



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**Fig. 2. The results of the normal distribution test**

### 3.3.2. Multiple linear correlation testing (multicollinearity)

Table (3) shows that the coefficient of permissible variation for the independent dimensions was between (0.2) and (1), indicating a low level of

variation. Furthermore, the coefficient of contrast inflation was below (5), suggesting a lack of strong correlation between the independent variables. These findings support the suitability of the values for conducting multiple linear regression analysis [49].

**Tab. 3. Multicollinearity results**

Variables	Recruitment and Talent Acquisition	Learning and Development	Employee Wellness and Benefits	Workforce Planning and Optimization
VIF	1.222	1.517	1.615	1.497
Tolerance	0.818	0.659	0.619	0.668

Pearson correlation coefficients were used between the dimensions of intelligent human resources management applications to ensure that

there is no high multiple linear correlation and the results are shown in Table (4).

**Tab. 4. The pearson correlation matrix among the dimensions of independent variable**

intelligent human resources management applications	Recruitment and Talent Acquisition	Learning and Development	Employee Wellness and Benefits	Workforce Planning and Optimization
Recruitment and Talent Acquisition	1			
Learning and Development	0.306	1		
Employee Wellness and Benefits	0.363	0.529	1	
Workforce Planning and Optimization	.0362	0.468	0.498	1

Table (4) indicated that the intelligent HRM applications was (0.529) and this means that there is no evidence for strong multiple linear correlation between independent dimensions., [50] state that a correlation value below 80% suggests the lack of multicollinearity.

### 3.3.3. Autocorrelation test

It has been statistically confirmed that there is no

autocorrelation problem by comparing the value of (D.W) calculated with tabular value, where there are two Tabular values of a statistic (D.W) they are (dL) represent the lower limits and(dU) represent the upper limits, and the decision is the absence of negative or positive self-correlation if the results of the calculated value of Derben Watson are greater than the upper Tabular value (dU) [50] and the results of this test came as shown in Table (5).

**Tab. 5. Test results (D.W)**

Statement	H <sub>0.1</sub>	H <sub>0.1.1</sub>	H <sub>0.1.2</sub>	H <sub>0.1.3</sub>	H <sub>0.4</sub>
D W Calculated	2.060	1.836	1.816	2.017	1.965
D.W DU	1.788			1.747	
D.W D I	1.679			1.720	

Table (5) shows that the value of (D.W) calculated for different hypotheses all fall outside the limits of the normative values of the upper Tabular value (du), which indicates the absence of a self-

correlation problem and the validity of the regression model for each of the hypotheses of the study.

**Tab. 6. Description of the personal and functional characteristics of the study sample**

Variable	Categories	Repetition	Percentage Ratio
Gender	Male	124	84.9%
	Female	22	15.1%
	Total	146	100%
Age	Less than 30 years old	3	2.1%
	From 30 years to less than 40 years	52	35.6%
	From 40 years to less than 50 years	66	45.2%
	50 years and over	25	17.1%
	Total	146	100%
Educational Qualification	Diploma	16	11%
	Bachelor's	90	61.6%
	Postgraduate Studies	40	27.4%
	Total	146	100%
Job Title	Director	16	11%
	Assistant / deputy director	18	12.3%
	Head of Department	52	36.3%
	Chief supervisor	56	40.4%
	Total	146	100%
Years of Experience	5 years or less	4	2.7%
	6-10 years	27	18.5%
	11-15 years	52	35.6%
	More than 15 years	63	43.2%
	Total	146	100%

### 3.3.4. Descriptive statistics for the variables and dimensions of the study tool:

This study encompassed the calculation of

arithmetic means, standard deviations, ranks, relative weights, and degrees of application for the variables and dimensions under investigation.

**Tab.7. Results of descriptive statistics on research variables and dimensions**

Variable Type	Variable / Dimension	arithmetic mean	standard deviation	relative weight	degree of importance
Independent	1 Recruitment and Talent Acquisition	3.91	0.576	87.2%	High
	2 Learning and Development	3.75	0.679	75%	High
	3 Employee Wellness and Benefits	3.74	0.561	74.8%	High
	4 Workforce Planning and Optimization	3.93	0.595	78.6%	High
	intelligent human resources management applications	3.83	0.451	76.6%	High
Dependent	Performance measurement and data analysis	3.86	0.950	77.2%	High



Table 7 shows that the independent variable, intelligent human resources management applications, achieved an arithmetic mean of 3.83 with a relative weight of 76.6% and a high degree of importance from the perspective of employees in supervisory and supervisory authorities in the Jordanian industry sector. It also had a standard deviation of 0.451, ranking second after workforce planning and improvement, which had an arithmetic mean of 3.93, a relative weight of 78.6%, and a standard deviation of 0.595. Recruitment and talent acquisition ranked third with an arithmetic mean of 3.91, a relative weight of 78.2%, and a standard deviation of 0.576. Learning and development came in fourth with an arithmetic mean of 3.75, a relative weight of 75%, and a standard deviation of 0.679. Lastly, benefits and incentives had an arithmetic mean of 3.74, a relative weight of 74.8%, and a standard deviation of 0.561. The dependent variable, employee performance and data analysis, achieved an arithmetic mean of 3.86 with a relative weight of 77.2% and a high degree of importance from the perspective of employees in supervisory and supervisory authorities in the Jordanian industry sector. It also had a standard deviation of 0.590. From Table 7, we can see that the standard deviations of the variables and dimensions are similar, indicating that the responses of the study

sample were consistent across the study tool. This suggests that the Jordanian industry sector has a future-oriented approach and places a high importance on the application of intelligent human resources management, as well as measuring employee performance and analyzing data, according to the perspective of employees in supervisory and supervisory authorities.

#### 4. Results and Discussion

This part will include an analysis of the results obtained from the hypothesis testing. The primary hypotheses were analyzed using multiple regression analysis, while other hypotheses were derived from the main hypothesis using simple regression analysis. The subsequent outcomes have been presented as follows:

##### 4.1. Results of the main hypothesis test

The Main Hypothesis: Ho.1: "There is no statistically significant effect at the level ( $\alpha \leq 0.05$ ) of intelligent human resources management applications (recruitment and talent acquisition, learning and development, benefits and incentives, workforce planning and improvement) on measuring the performance of employees and analyzing data in the Jordanian industrial sector".

**Tab. 8. Results of the multiple regression model of the impact of intelligent human resources management applications with its dimensions in measuring the performance of employees and data analysis**

<i>T. Sig</i>	<i>T</i> calculated	<i>Beta</i>	<i>Std. Error</i>	<i>B</i>	intelligent human resources management applications	<i>F. Sig</i>	<i>F</i> calculated	<i>DF</i>	<i>Adj R</i> <sup>2</sup>	<i>R</i> <sup>2</sup>	<i>R</i>
0.000	5.301	0.287	0.055	0.942	Recruitment and Talent Acquisition	Performance measurement and data analysis	0.000	69.150	0.653	0.662	0.814
0.018	2.388	0.144	0.052	0.125	Learning and Development						
0.000	4.498	0.280	0.065	0.294	Employee Wellness and Benefits						
0.000	6.038	0.362	0.059	0.359	Workforce Planning and Optimization						
<i>Constant</i> = 0.266-					<i>DF</i> = (4-141)						

Table (8) shows that the value of the correlation coefficient is  $R = (81.4\%)$ , which indicates a strong relationship between intelligent human resources

management applications, employee performance measurement and data analysis in the Jordanian industrial sector. The value of the coefficient of

interpretation and equality ( $0.662=R^2$ ) indicates that intelligent human resources management applications with their dimensions, have explained (66.2%) of the variation in measuring the performance of employees and analyzing data in the Jordanian industrial sector, and shows a statistically significant impact of intelligent human resources management applications in measuring the performance of employees and analyzing the statement in the Jordanian industrial sector, which is shown by the value of (F.Sig) is equal to (0.00), which is less than (0.05). We note that all dimensions of intelligent human resources management applications have contributed by influencing the variable of measuring the performance of employees and analyzing data in T.Sgt. which is less than (0.05). The value of (Beta) shows that after (workforce planning and improvement) achieved the highest level in terms of impact, followed by after (recruitment and talent acquisition), after (benefits and incentives)

and finally after (learning and development) in measuring the performance of employees and analyzing data in the Jordanian industrial sector. Therefore, we accept the alternative hypothesis that: "there is a statistically significant impact at the level of significance ( $\alpha \leq 0.05$ ) of the dimensions of intelligent human resources management applications (recruitment and talent acquisition, learning and development, benefits and incentives, workforce planning and improvement) in measuring the performance of employees and analyzing data in the Jordanian industrial sector.

#### 4.2. The results of the 1st sub-hypothesis test

HO.1.1: "There is no statistically significant effect at a moral level ( $\alpha \leq 0.05$ ) of the employment and talent acquisition on measuring the performance of employees and analyzing data in the Jordanian industrial sector".

**Tab. 9. Results of the simple regression model of the impact of recruitment and talent acquisition in measuring the performance of two jobs and data analysis**

<i>T. Sig</i>	<i>T<sub>calculate</sub></i>	<i>Beta</i>	<i>Std. Error</i>	<i>B</i>	intelligent human resources management applications	Dependent	<i>F. Sig</i>	<i>F</i> calculated	<i>Adj R<sup>2</sup></i>	<i>R<sup>2</sup></i>	<i>R</i>
0.000	8.176	0.563	0.070	0.576	Recruitment and Talent Acquisition	Performance measurement and data analysis	0.000	66.845	0.312	0.317	0.563
<i>Constant</i> = 1.606					<i>DF</i> = (145)						

Table (9) shows that there is a statistically significant impact of hiring and acquiring talents in measuring the performance of employees and analyzing data in the Jordanian industrial sector, which is shown by the value of (T.Sgt.) is equal to (0.00) and is less than (0.05), and it is noted that the value of the correlation coefficient  $R = (56.3\%)$  indicating an average relationship between the two variables. The value of the identification coefficient ( $0.317=R^2$ ) indicates that after the recruitment and acquisition of talents, 31.7% of the discrepancy in measuring the performance of

employees and analyzing data in the Jordanian industrial sector was explained.

#### 4.3. Results of the sub-hypothesis test (second)

Ho.1.2: "There is no statistically significant effect at a moral level ( $\alpha \leq 0.05$ ) of the learning and development on measuring the performance of employees and analyzing data in the Jordanian industrial sector".

**Tab. 10. Results of the simple regression model of the impact of learning and development in measuring the performance of two works and data analysis.**

<i>T. Sig</i>	<i>T</i> calculate	<i>Beta</i>	<i>Std.</i> <i>Error</i>	<i>B</i>	intelligent human resources management applications	Dependent	<i>F. Sig</i>	<i>F</i> calculated	<i>Adj R</i> <sup>2</sup>	<i>R</i> <sup>2</sup>	<i>R</i>
0.000	7.877	•0.549	0.061	0.477	Learning and Development	Performance measurement and data analysis	0.000	62.044	0.296	0.301	0.549
<i>Constant</i> = 2.073						<i>DF</i> = (145)					

Table (10) shows that there is a statistically significant impact of learning and development in measuring the performance of employees and analyzing data in the Jordanian industrial sector, which is shown by the value of (T.Sgt) is equal to (0.00) which is less than (0.05), and it is noted that the value of the correlation coefficient R=(54.9%) indicating an average relationship between the two variables. The value of the determination coefficient (R2=0.301) indicates that after learning and development, 30.1% of the variation

in measuring the performance of employees and analyzing data in the Jordanian industrial sector was explained.

#### 4.4. Results of the sub-hypothesis test (third)

Ho.1.3:" There is no statistically significant effect at a moral level ( $\alpha \leq 0.05$ ) of the benefits and incentives on measuring the performance of employees and analyzing data in the Jordanian industrial sector".

**Tab. 11. Results of the simple regression model of the impact of benefits and incentives in measuring the performance of employees and data analysis**

<i>T. Sig</i>	<i>T</i> calculat	<i>Beta</i>	<i>Std.</i> <i>Error</i>	<i>B</i>	intelligent human resources management applications	Dependent	<i>F. Sig</i>	<i>F</i> calculat	<i>Adj R</i> <sup>2</sup>	<i>R</i> <sup>2</sup>	<i>R</i>
•,•••	9,996	•,74•	•,•77	•,773	Employee Wellness and Benefits	Performance measurement and data analysis	•,•••	99,914	•,4•6	•,41•	•,74•
<i>Constant</i> = 1.345						<i>DF</i> = (145)					

Table (11) shows that there is a statistically significant impact of benefits and incentives in measuring the performance of employees and analyzing data in the Jordanian industrial sector, which is shown by the value of (T.SIG) is equal to (0.00) which is less than (0.05), and it is noted that the value of the correlation coefficient R= (64%) indicating a strong correlation between the two variables. The value of the determination coefficient (R2=0.410) indicates that the benefits

and incentives dimension has explained (41%) of the discrepancy in measuring the performance of employees and analyzing data in the Jordanian industrial sector.

#### 4.5. Results of the sub-hypothesis test (IV)

Ho.1.4:" There is no statistically significant effect at a moral level ( $\alpha \leq 0.05$ ) of the planning and improving the workforce on measuring the performance of employees and analyzing data in the Jordanian industrial sector ".

**Tab. 12. Results of the simple regression model of the impact of workforce planning and improvement in the measurement of work performance and data analysis**

<i>T. Sig</i>	<i>T</i> calculat	<i>Beta</i>	<i>Std.</i> <i>Error</i>	<i>B</i>	Intelligent Human Resources Management Applications	Dependent	<i>F. Sig</i>	<i>F</i> calculat	<i>Adj R</i> <sup>2</sup>	<i>R</i> <sup>2</sup>	<i>R</i>
.,.,.,.	1.,.,.,.	.,.,.,.	.,.,.,.	.,.,.,.	Workforce Planning and Optimization	Performance measurement and data analysis	.,.,.,.	118,024	.,.,.,.	.,.,.,.	.,.,.,.
<i>Constant</i> = 1.243					<i>DF</i> =(145)						

The results in Table 12 demonstrate a statistically significant impact of workforce planning and improvement on the performance of employees and data analysis in the Jordanian industrial sector. This is indicated by the value of T.SIG, which is 0.00, lower than the accepted threshold of 0.05. Additionally, the correlation coefficient R shows a strong correlation between the two variables, with a value of 67.2%. The determination coefficient (R<sup>2</sup>) of 0.451 suggests that 45.1% of the variation in measuring employee performance and analyzing data in the Jordanian industrial sector can be attributed to workforce planning and improvement.

Therefore, AI helps intelligent human resources management transform the way recruitment is made. This is done by assisting recruiters in different talent acquisition processes, including identifying the right talent to screening and assessing specific behavior of candidates. Significantly, AI is effective in streamlining and automating workflow in talent acquisition processes.

Besides, AI can be beneficial to human resources management as it recommends classes in leadership, project management, and strategic planning to a manager. In a sense, it can help intelligent human resources management in analyzing the current workforce, determining their future needs, identifying the gap between the present and the future, and implementing solutions.

## 5. Conclusion

Based on the results of this research, it has become obvious that there is a strong relationship between intelligent human resources management applications, employee performance measurement and data analysis in the Jordanian industrial sector. In this respect, the first hypothesis was tested, and it deals with a statistically significant effect at the level of significance ( $\alpha \leq 0.05$ ) for the dimensions of intelligent human resources

management applications (recruitment and talent acquisition, learning and development, benefits and incentives, workforce planning and improvement) in measuring the performance of employees and analyzing data in the Jordanian industrial sector. It showed that all dimensions of intelligent human resources management applications have made a contribution by influencing the variable of employee performance measurement and data analysis that after (workforce planning and improvement) achieved the highest level in terms of impact, followed by after (recruitment and talent acquisition), after (benefits and incentives) and finally after (learning and development) in measuring employee performance and data analysis in the industry sector.

Planning and improvement of the workforce recorded an average of 3.93 and a relative weight (78.6%) including the strategic goals and employment plans and potential needs of the workforce in the future, based on data analysis and analytical reports that help in making hiring decisions and development and focus on analyzing and improving the internal processes of the organization to increase productivity and reduce costs, in addition to providing strategies to manage changes in the working environment of the organization using intelligent applications for Human Resources. This result is consistent with [42, 52, 54, 55, 58].

Recruitment and acquisition of talents item have received average value (3.91) and relative importance (78.2%). The elements under this item included the selection of employees using data analytics and artificial intelligence, the involvement of executives and HR managers in recruitment and selection, the use of intelligent interview techniques, standardized tests, obtaining the highest skills and competencies, GF Strong merit criteria. This result aligns with [39, 53].

Learning and development recorded an arithmetic average (3.75) and a relative weight (75%) and

with a high degree of importance, through training courses and the participation of employees in educational activities, identifying training needs, providing training programs and evaluating the skills of employees through artificial intelligence programs. This is consistent with [1, 44, 56]. Benefits and incentives dimension recorded an average of (3.74) and a relative weight (74.8%) and a high degree of importance. Here, decision makers need to use artificial intelligence in designing innovative and proven incentive and reward programs to encourage employees to achieve personal and professional goals. Artificial intelligence and data analytics provide comprehensive reports and analysis on the impact of benefits and incentives on employee performance, happiness and engagement, in addition to providing easy-to-use user interfaces and interactive solutions to access benefits and incentives. This result agrees with [45, 53, 55, 57].

## 6. Recommendations

Using the information that was gleaned from this analysis, the researchers have come up with the following recommendation

- Within the context of the industry sector, department heads and those in charge of human resources (HR) should have the chance to participate in the process of hiring new employees and making hiring decisions. based on artificial intelligence program
- Providing the administration of the organization with the opportunity to act impartially when bestowing material as well as moral rewards on staff members.
- Organizations should use intelligence applications to analyze big data related to employees and internal processes, enabling the organization to make informed strategic decisions.
- Employ intelligence applications to analyze employee experiences and identify areas that can be improved, such as facilitating access to information and improving internal communication.
- Use intelligence applications to evaluate employee performance and provide personalized guidance to develop their skills and increase their productivity.
- Use intelligent analytics to provide insights on leadership development and provide strategic direction to the organization in the field of Human Resource Management.

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