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MIDDLE EAST UNIVERSITY
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The Impact of Artificial Intelligence on Employment in High-Tech Companies in the Jordanian Market

أثر الذكاء الاصطناعي على التوظيف في الشركات عالية التقانة في السوق الأردني

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Business Administration Department

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This thesis by student Nour Khalil Abu-Khaled which studies "The Impact of Artificial Intelligence on Employment in High-Tech Companies in the Jordanian Market" has been defined, accepted and approved on 27/1/2020.

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2	Dr. Sameer Al-Jabaly	Internal Member and Head of Committee	
3	Dr. Faisal Asad Aburub	External Member	

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Nour Khalil Abu-Khaled

Dedication

Nobody has been more important to me for the dedication of this thesis than my family. I would like to thank my mother and the soul of my father; whose love and guidance are with me in whatever I pursue. They are the ultimate role models. Most importantly, I wish to thank my loving son, Zaid.

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Nour Khalil Abu-Khaled

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The Impact of Artificial Intelligence on Employment in High-Tech Companies in the Jordanian Market

Prepared by: Nour Khalil Abu-Khaled

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Abstract

Purpose: Artificial intelligence is used in many fields. Employment is one of the most important fields that take advantage of these technologies. On the other hand, it threatens to replace jobs. The purpose of the study is to examine the impact of artificial intelligence on employment in High-Tech companies in the Jordanian market.

Methodology: To actualize this study, data were collected from 138 managers, supervisors and employees who work at Jordanian High-Tech companies by questionnaire. After confirming the normality, validity, and reliability of the tool, descriptive analysis was carried out, and the correlation between variables checked. Finally, the impact was tested by multiple regressions by using SPSS.

Findings: The result shows that Jordanian High-Tech companies implement both artificial intelligence and employment dimensions. It also shows that there is a correlation between artificial intelligence dimensions and employment dimensions. Finally, results indicate that there is a significant impact of the total artificial intelligence on total employment in High-Tech companies in the Jordanian market. Automation has rated the highest impact on employment, followed by efficiency, while ease of use does not show a significant impact on total employment dimensions.

Limitations/Recommendations: The current study was conducted in High-Tech companies in Jordan. Therefore, it recommends future researches to collect more data over a longer period of time to check the current model validity and the measuring instrument. It also recommends carrying out similar studies on other sectors in Jordan and the same sector outside Jordan to test its results generalizability.

Originality/Value: This study may be considered as one of the few studies that discuss the use of new technologies in business from an employee's perspective.

Keywords: Artificial Intelligence, Employment, Automation, Efficiency, Ease of Use, Recruitment, Selection, Appointment.

أثر الذكاء الاصطناعي على التوظيف في الشركات عالية التقانة في السوق الأردني

إعداد: نور خليل أبو خالد

إشراف: الدكتور عبد العزيز أحمد الشرباتي

الملخص

الغرض: يستخدم الذكاء الاصطناعي في العديد من المجالات، يعد التوظيف أحد أهم المجالات التي تستفيد من هذه التقنيات. من ناحية أخرى، فإنه يهدد باستبدال الوظائف. والغرض من هذه الدراسة هو دراسة تأثير الذكاء الاصطناعي على التوظيف في شركات التكنولوجيا العالية التقانة في السوق الأردني.

المنهجية: لإنجاز هذه الدراسة، تم جمع البيانات من 138 مديرًا ومشرفًا وموظفًا يعملون في الشركات عالية التقانة الأردنية عن طريق الاستبيان. بعد التأكد من التوزيع الطبيعي للأداة وصدقها وثباتها، تم إجراء التحليل الوصفي والتحقق من الارتباط بين المتغيرات، وأخيرا تم اختبار الاثر بواسطة الانحدار المتعدد باستخدام برنامج SPSS.

النتائج: توضح النتائج أن الشركات عالية التقانة الأردنية تطبق أبعاد الذكاء الاصطناعي والتوظيف. كما يوضح أن هناك علاقة بين أبعاد الذكاء الاصطناعي وأبعاد التوظيف. أخيرًا، تشير النتائج إلى وجود تأثير كبير في الذكاء الاصطناعي الكلي على إجمالي العمالة في الشركات عالية التقانة الأردنية. لقد صنفت الأتمتة الأكبر تأثيراً على التوظيف، تليها الكفاءة. في حين أن سهولة الاستخدام لا تظهر تأثيرًا كبيرًا على إجمالي أبعاد التوظيف.

المحددات / التوصيات: تم إجراء هذه الدراسة الحالية على الشركات عالية التقانة في الأردن. لذلك توصي هذه الدراسة الأبحاث المستقبلية بجمع المزيد من البيانات على مدار فترة زمنية أطول للتحقق من صدق وثبات نموذج الدراسة الحالي وأداة القياس. كما توصي بإجراء دراسات مماثلة حول قطاعات أخرى في الأردن ونفس القطاع خارج الأردن للتأكد من إمكانية تعميم النتائج.

الأصالة / القيمة: يمكن اعتبار هذه الدراسة واحدة من الدراسات القليلة التي تناقش تأثير استخدام التكنولوجيا الجديدة في الأعمال من منظور الموظف.

الكلمات المفتاحية: الذكاء الاصطناعي، التوظيف، الأتمتة، الكفاءة، سهولة الاستخدام، التوظيف، الاختيار، التعيين.

Chapter One: Introduction

1.1 Background:

New technologies create winners and losers in the labor market. Companies seek to reduce cost, increase efficiency and quality by applying artificial intelligence.

Today, artificial intelligence drives changes in many sectors, including employment, which takes advantage of these technologies. On the other hand, it threatens to replace jobs.

Jordan's High-Tech companies have recently begun to apply artificial intelligence increasingly in their businesses. Many employees working in these companies have concerns that AI might influence their jobs by replacing them with automated machines, thus, affecting the overall terms of their employment. Moreover, there is unanimity that AI will have a disruptive impact on work, with some jobs being lost, others being created or the nature of these jobs being changed.

Weizenbaum (1972) said that artificial intelligence machines would replace or enhance human capabilities in many areas within the human domain. Albus (1983) said that the problem is not in finding plenty of work for both humans and robots but in finding mechanisms by which the wealth created by robot technology can be distributed as income to the people who need it. Rifkin (1995) said that we are entering a new era in world history-one in which fewer and fewer workers would be needed to produce the goods and services for the global population. Therefore, it is moving us to the edge of a near worker less world. Autor, et. al. (2003) stated that worker displacement is a possible outcome of automation as machines take over tasks previously performed by humans. Noe, et. al. (2006) said that the impact of intelligence technology could change the manager's work

contents, artificial intelligence could undertake and help managers speed up their daily boring and repetitive work. Ford (2013) stated that an increasing share of work would become more automated as machines are taking on intellectual tasks that once were referred to non-routine tasks that required the human brain. Frey & Osborne (2013) warned that the pace of automation is accelerating; the range of jobs affected is increasing, and this is threatening displacement across large shares of jobs in the future. Autor (2015) said that the number of jobs lost to more efficient machines is only part of the problem. What worries many job experts more is that automation might prevent the economy from creating enough new jobs. Davenport & Kirby (2015) said that it could be appealing for managers to possess the least number of workers possible, maintaining a large number of robots with high productivity levels to reduce salaries, but this could significantly increase unemployment rates, outweighing the benefits of automation to the economy. Autor & Salomons (2017) stated that rapid advances in machine capabilities might curtail aggregate labor demand as technology increasingly encroaches on human job tasks.

Manyika (2017) concluded that jobs that are more technical and routine, have a greater chance of being replaced by technology. He also found that about half the activities people are paid to do globally could theoretically be automated using currently demonstrated technologies. McKinsey & Company (2017) suggested that between almost zero and one-third of work activities could be displaced by 2030. Wisskirchen, et. al. (2017) stated that artificial intelligence would influence the global labor market in the next decade, and he discussed how it would lead to mass unemployment. Ernst, et. al. (2018) said that the current wave of technological change based on advancements in artificial intelligence has created widespread fear of job losses and further rises in inequality. He

(2018) stated that artificial intelligence could ease the onboarding process for both employers and employees since AI learns and adapts, it would sense the preference characteristics and attributes and recommend it back. Grace, et. al. (2018) discussed that experts expect that artificial intelligence would outperform humans in the next 10 years, not only in some fewer demanding tasks but also in services. Nuefeind, et. al. (2018) said that artificial intelligence is coming to put most of us out of business, except for a growing number of 'gig economy' workers. Upadhyay & Khandelwal (2018) argued that AI is changing the recruitment industry and is replacing repetitive tasks that were usually performed by human recruiters. Wang & Lin (2018) said that AI can effectively reduce the subjective factors of people, complete the whole process of recruitment openly, transparently and objectively, but the interviewing process must be lacking interaction and face-to-face various senses.

Barboza (2019) said that one of the most talked-about and highly debated drifts in modern organizations regarding HR technology has been artificial intelligence and they believe that artificial intelligence would be a game-changer for higher productivity and efficiency in HR professionals. Cappelli, et. al. (2019) said that artificial intelligence applications harm employees' behavior and firms must ensure their involvement because that is necessary for their success. Fedorov, et. al. (2019) said that artificial intelligence technologies strongly affect the company's business strategy and the HR practices and are being perceived by many as a real threat to human employees' jobs. Nunn (2019) stated that AI is becoming the key driver behind job-candidate matching and automating communications with candidates. These are arguably the two biggest areas where AI is at its most effective, eliminating human bias and increasing efficiency in candidate assessment and communication. Parveen & Palaniammal (2019) stated that

artificial intelligence would perform all work in human resource management functions like recruitment, selection, and performance management automatically. Prasanna & Kusuma (2019) said that the integration of HR practices with AI applications has a stronger impact on enhancing organizational performance, even though it does not possess human's emotional and cognitive abilities.

Based on the above mentioned, this study aims to investigate the impact of artificial intelligence dimensions (automation, efficiency, and ease of use) on employment in High-Tech companies (recruitment, selection, and appointment) in the Jordanian market.

1.2 Study Purpose and Objectives:

The purpose of the study is to examine the impact of artificial intelligence on employment in High-Tech companies (recruitment, selection, and appointment) in the Jordanian market. The main objectives of this study are:

1. Provide sound recommendations to High-Tech companies in Jordan to reduce the negative impact of artificial intelligence on future employment by developing suitable strategies to take advantage of these technologies to help employees expand their capabilities, and to create new markets that establish new business horizons instead of stealing their jobs.
2. Find out how to utilize artificial intelligence technologies in a way that is suitable for employees in High-Tech companies to improve their skills and service quality as well as keep their jobs.
3. Develop policies that promote efficient labor markets for the benefit of workers, employers and societies as a whole.

1.3 Study Significance and Importance:

The current study might be considered the first study on this topic to be, conducted in Jordan and/or the Arab world. It might provide advice to High-Tech companies to benefit from these technologies in developing their employees' skills instead of dispensing with them.

The results might be appropriate to other industries that have similarities within the same business sphere. It could also be a base for other studies in the future. There are a few studies that discuss the impact of using new technologies in business from an employee's perspective. Therefore, the value of this study arises from the following scientific and practical considerations:

1. Drive attention to artificial intelligence and its impact on employment in High-Tech companies in the Jordanian market.
2. This study contributes to build further studies on this topic that can be used in other businesses.
3. Give recommendations to High-Tech companies or other industries on how to apply artificial intelligence technologies in a way that helps the employees instead of replacing them.
4. The researcher is working in a company that has started to consider dismissing employees due to using new technologies. The results of this study can be used to give some recommendations to the business owner on the impact of artificial intelligence technologies on employment to help them develop suitable strategies to their businesses that benefit the workers and employers.

1.4 Problem Statement:

The problem of the study arises from the reality of work, and after conducting some interviews with the employees, they complained that their

companies seek to reduce costs and apply artificial intelligence, thus making employees feel that this threatens their jobs, especially those with weak skills. The study discusses the impact of artificial intelligence on employment. Previous studies differ between supporters and opponents. Frey & Osborne (2013) said that the number of jobs at risk of replacement by future computerization has attracted the attention of the media everywhere. Rotman (2013) said that rapid technological change has been destroying jobs faster than it is creating them. He also said that the robot workforce could drive productivity and growth on its own, eliminating jobs in the process. Bowles (2014) found that for the European labor market, the average of EU jobs at risk of computerization is 54%. Autor (2015) stated that automation is starting to move in and eliminate office jobs too. Not that long ago, new industries hired more people than those they put out of business. Susskind & Susskind (2015) stated that with increased mechanization, there are increased organic systems losses. Arntz, et. al. (2016) argued that due to artificial intelligence advances, technological unemployment because of workers seeking new jobs after being laid off is likely to increase over the years. Deloitte (2016) suggested that up to 15 million jobs in the UK could be lost through the utilization of advanced robotics and automation technologies. Tandon, et. al. (2017) argued that a human recruiter is necessary for middle management, senior management hires, and companies should only consider human recruiters when hiring managers. Frontier (2018) discussed that the recent industrial automation has been tied to falling employment and earnings in manufacturing for labor with low and medium levels of formal education.

Therefore, this study aims to investigate the impact of artificial intelligence on employment in High-Tech companies in the Jordanian market.

1.5 Problem Questions:

Based on the arguments above, this study aims to answer the following research question:

1. Do artificial intelligence dimensions (automation, efficiency, and ease of use) have an impact on employment in High-Tech companies in the Jordanian market?

Based on artificial intelligence dimensions above, we divided the main question into the following sub-questions:

1.1. Does artificial intelligence automation have an impact on employment in High-Tech companies in the Jordanian market?

1.2. Does artificial intelligence efficiency have an impact on employment in High-Tech companies in the Jordanian market?

1.3. Does artificial intelligence ease of use have an impact on employment in High-Tech companies in the Jordanian market?

1.6 Study Hypotheses:

The previous questions answered by testing the following hypothesis:

Main Hypothesis:

H01: Artificial intelligence dimensions (automation, efficiency, and ease of use) do not impact employment in High-Tech companies in the Jordanian market, at ($\alpha \leq 0.05$).

Sub Hypotheses:

Based on artificial intelligence dimensions, the main hypothesis was divided into the following sub-hypotheses:

H01.1: Artificial intelligence automation does not impact employment in High-Tech companies in the Jordanian market, at ($\alpha \leq 0.05$).

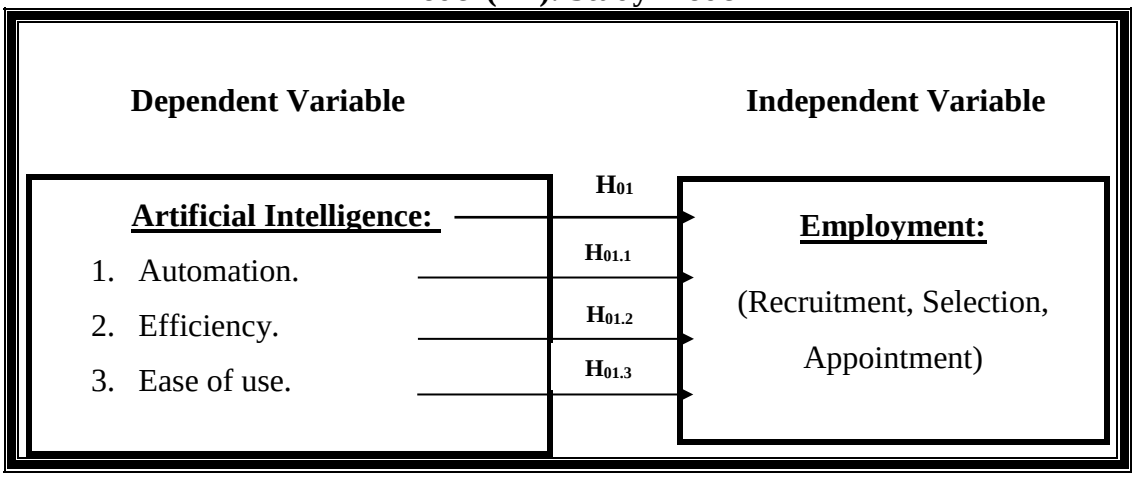
H01.2: Artificial intelligence efficiency does not impact employment in High-Tech companies in the Jordanian market, at ($\alpha \leq 0.05$).

H01.3: Artificial intelligence ease of use does not impact employment in High-Tech companies in the Jordanian market, at ($\alpha \leq 0.05$).

1.7 Study Model:

Based on the problem statement above and its questions the following model has been formed to study the impact of artificial intelligence on employment, as shown in Model (1-1).

Model (1-1): Study Model



Sources: This model is developed based on the following studies: For the independent variable: (Strohmeier & Piazza, 2015; Kiruthika & Khaddaj, 2017; Garg, et al., 2018). For the dependent variable: (Ruël, et. al., 2004; Oksanen, 2018; Dijkkamp, 2019; Masum, et. al., 2018).

1.8 Operational Definitions of Terms:

Artificial intelligence (AI): is the computer system that can perform normal tasks that require human intelligence. It is the stimulation of human intelligence processes by machines, including learning, reasoning, and self-correction. AI automates processes that can be controlled by machines instead of humans and can efficiently interpret external data, learn from such data, and use what was learned from the data to achieve specific goals and tasks through flexible adaptation. The user can easily use AI to minimize effort and maximize chances for the achievement of goals.

Automation: It is the use of machines and technology to make processes run on their own without human effort. It involves the use of control systems for operating equipment and applications with minimal human intervention. Automation is a system used to build automatic alarms/process notifications when a problem of any kind arises; a human being is notified and can intervene to solve the problem.

Efficiency: It is the extent to which useful work is performed by a machine and the condition of producing the results you desire without wasting material, energy, effort, money, and time. Efficiency is developing modern production facilities using new information technologies that can produce and distribute a company's products in a timely and cost-effective manner.

Ease of Use: It is the degree to which an application can be easily understood and controlled by users. Users can operate the system without putting much effort. Ease of use means the flexibility of using technology and it gives a motivation to use the technology more frequently.

Employment: It is the process of recruiting, selecting and appointing the right employees who will fit well into job requirements in the organization.

Recruitment: It is the overall activity carried out by the organization to identify, attract and shortlisting suitable candidates and stimulate them to apply for the job. It is a nonstop process whereby the firm tries to develop a pool of qualified applicants for future human resources needs. Recruitment is the search for potential employees to meet job requirements.

Selection: It is the process of interviewing and evaluating candidates for a vacant position in the organization and carefully choosing an individual for employment based on certain standards and qualifications and filtering

out unsuitable applicants for future dismissal. It includes preliminary interviewing, receiving applications, screening applications, interviewing, reference checking, and final selection.

Appointment: It is the approval of an applicant or employee for suitable jobs to perform the duties and responsibilities of an established position under the company's objectives. It includes the arrangement to conduct a meeting with the person and the act of placing the person in a job or position.

1.9 Study Limitations and Delimitations:

Human Limitation: This research applied to managers, supervisors, and employees of High-Tech companies in Jordan.

Place Limitation: The research was applied in Amman, Jordan.

Time Limitation: This research was applied during the first semester and the second semester of the academic year 2019/2020.

Study Delimitation: The purpose of this research is to investigate the impact of artificial intelligence on employment in High-Tech companies in the Jordanian market. Generalizing its results on other sectors may not apply, so this research is limited to High-Tech companies in Jordan.

Extending the analyses to other industries and countries represent future research opportunities, which can be done by further testing with larger samples within the same industry, and including other industries will help reduce the issue of generalizing conclusions on other industries. Moreover, further empirical researches involving data collection over various countries especially Arab countries are needed.

Chapter Two: Theoretical and Conceptual Framework and Literature Review

2.1 Introduction:

This chapter contains variables definitions and, the relationship between different variables. Moreover, it includes previous studies and previous models and what differentiates this study from other studies.

2.2 Definitions and Components of Variables:

Definitions and Components of the Independent Variable (Artificial Intelligence):

Artificial Intelligence: Rifkin (1995) said that artificial intelligence means the art of creating machines that perform functions that require intelligence when performed by people. Arntz, et. al. (2016) defined artificial intelligence as the type of human capabilities machines can do. Russell & Norvig (2016) said that artificial intelligence (AI) can be defined as computer programs that are capable of performing intelligent functions. Wisskirchen, et. al. (2017) said that artificial intelligence describes the work processes of machines that would require intelligence if performed by humans. Wisskirchen, et. al. (2017) also said that when computers can understand the right software/programming and are able to optimize their behavior based on their former behavior and their experience is called artificial intelligence. Jackson (2019) agreed that artificial intelligence is a technology that is already impacting how users interact with and are affected by the internet. Prasanna & Kusuma (2019) stated that artificial intelligence is a tool that uses human intelligence in various fields and improves performance, and it is an emerging technology, which is used in all industries to improve productivity and performance.

In summary, artificial intelligence is a computer system that can perform normal tasks requiring human intelligence. It is the stimulation of human intelligence processes by machines, including learning, reasoning, and self-correction.

Automation: Rifkin (1995) said that automation is the use of control systems for operating equipment such as machinery, processes in factories, and other applications and vehicles with minimal human intervention. Tzafestas (2009) stated that automation means the operations and activities that can be monitored and controlled by machines instead of humans. Groover (2014) defined automation as the technology by which a process or procedure is performed with minimal human assistance. Altemeyer (2019) argued that automation is the use of technology to execute recurring tasks or processes in a business where manual effort can be replaced. Wang & Siau (2019) defined automation as the use of digital technology to perform processes to accomplish a workflow or function.

In summary, automation is the use of machines and technology to make processes run on their own without human effort. It involves the use of control systems for operating equipment and applications with minimal human intervention.

Efficiency: Samset (1998) defined efficiency as a measure of realization of the project's purpose, or the project's long-term consequences. Sufian, et. al. (2013) said that efficiency is the extent to which a firm has been able to transform its inputs into outputs following the progressive objective of the firm. Olsson (2017) stated that efficiency is related to producing direct outputs, and to added value for owners and users. Palmer & Torgerson (2018) defined efficiency as the relationship between resource inputs (costs, labor, capital, or equipment) and intermediate outputs (numbers treated, waiting time, etc.). Ashtiani, et. al. (2019) said that

efficiency is the ratio of the work done or energy developed by a machine, engine, etc., to the energy supplied to it, usually expressed as a percentage. Sattar, et. al. (2019) defined efficiency as the level of performance that describes using the least amount of input to achieve the highest amount of output.

In summary, efficiency is the extent to which useful work is performed by a machine and the condition of producing the results you desire without wasting material, energy, effort, money, and time.

Ease of Use: Lee & Park (2008) defined it as the extent to which a user can use the specific system without putting much effort. Jen & Hung (2010) said that it is the degree to which artificial intelligence is easily understood and can be operated by anyone. Lim, et. al. (2011) stated that ease of use is the minimum effort that a user can put in using technology. Jung & Yim (2016) defined it as a motivation to use technology more frequently. Gursoy, et. al. (2019) defined ease of use as the degree to which an application can be easily understood and controlled by users.

In summary, ease of use is the degree to which an application can be easily understood and controlled by users.

Definitions and Components of the Dependent Variable (Employment):

Employment: Dakin, et. al. (1989) defined employment as the relationship between two parties, usually based on a contract where work is paid for. Kaba (2017) said that employment means finding new jobs that are available at that moment. Heathfield (2018) defined employment as an agreement between an employer and an employee according to which the employee will provide certain services on the job that are paid. Goldberg & Wilkinson (2019) agreed that employment is the process of reviewing

applications, selecting the right candidates to interview, testing candidates, and choosing between candidates to make the hiring decision. Wilkinson (2019) said that employment is the process of attracting, training and developing talents who will fit well into the organization.

In summary, employment is the process of recruiting, selecting, and appointing the right employees who will fit well into job requirements in the organization.

Recruitment: Devi & Banu (2014) defined recruitment as the process of searching for candidates for employment and stimulating them to apply for jobs in the organization. Devi & Banu (2014) also defined it as a continuous process whereby the firm attempts to develop a pool of qualified applicants for the future human resources needs even though specific vacancies do not exist. Brando, et. al. (2019) said that it is the process of attracting a pool of candidates to a particular position, followed by the selection phase. Hmoud & Laszlo (2019) said that recruitment is the process of identifying the job vacancy, analyzing the job requirements, reviewing applications, screening, shortlisting and selecting the right candidate. Matolo, et. al. (2019) stated that recruitment is the search for the prospective employee to suit the job requirements as represented by job specification.

In summary, recruitment is the overall activity carried out by the organization to identify, attract and shortlisting suitable candidates and stimulate them to apply for the job.

Selection: Gusdorf (2008) defined selection as the process of shortlisting the right candidates with the necessary qualifications and skills to fill the vacancies in an organization. Muchinsky (2011) said that selection is the methodical process used to hire (or, less commonly, promote) individuals. Holm & Haahr (2019) defined selection as choosing the right candidates who will fit well into the organization, the vacant job, and their

future co-workers. Matolo, et. al. (2019) defined selection as the management decision making and extensive planning to employ the most suitable manpower. Villegas, et. al. (2019) said that selection is a process of picking the right candidate with prerequisite qualifications and capabilities to fill the jobs in the organization.

In summary, the selection is the process of interviewing and evaluating candidates for a vacant position in the organization and carefully choosing an individual for employment based on certain standards and qualifications and filtering out unsuitable applicants for future dismissal.

Appointment: Public Service Ministry of Guyana (2004) defined appointment as the procedure for formulating the employment of persons in specific posts. Mehrabad & Brojeny (2007) said that it is the selection of suitable jobs for applicants and correct job rotation concerning organizational requirements and job classification. Bauer (2010) defined appointment as the process of helping new hires adjust to social and performance aspects of their new jobs quickly and smoothly. Decenzo & Robbins (2010) defined appointment as the process by which an individual is empowered in the appropriate job. Luder, et. al. (2018) said that appointment is the power of the executive to select persons to fill a position or employment in the organization.

In summary, the appointment is the approval of an applicant or employee for suitable jobs to perform the duties and responsibilities of an established position under the company's objectives.

2.3 Relationships between Independent and Dependent Variables:

Previous studies showed the correlation between variables, but few studies are related to this. The researcher combined independent variables

from several studies that indicate an impact on dependent variables. Albus (1983) said that the problem is not in finding jobs for both humans and robots, but in finding mechanisms by which the wealth created by robot technology can be distributed as income to the people. Autor, et. al. (2003) stated that there is a relationship between automation and tasks performed by humans. Frey & Osborne (2013) warned that the pace of automation is accelerating and the range of jobs affected is increasing, thus threatening displacement across large shares of jobs in the near future. Deloitte (2016) suggested that employment in the UK could be lost through the utilization of advanced automation technologies. Autor & Salomons (2017) stated that rapid advances in machine capabilities might affect employment on so many levels. McKinsey & Company (2017) suggested that almost every job could be replaced by machines by 2030. Frontier (2018) discussed that industrial automation has been tied to falling employment in manufacturing for labor with low and medium levels of formal education.

2.4 Previous Models:

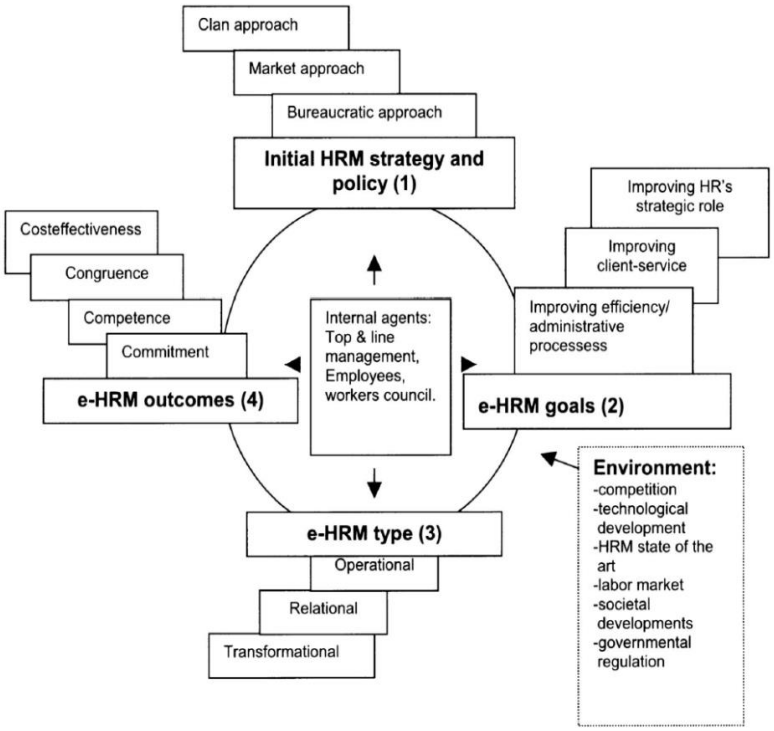
After reviewing related literature, it has been found that not only the definition but also the classification of each dimension was not clear nor unified. Moreover, the measurement methods and models were not unified as well. Very limited literature discussed and studied the artificial intelligence concept, dimensions, and components. The following section will briefly discuss some of the literature and models that studied the artificial intelligence dimensions and the relationship with one or more of employment dimensions.

Ruël, et. al. (2004) Model:

This model illustrates the goals of e-HRM, which are mainly to improve HR's administrative efficiency to achieve cost reduction using AI technology to achieve organizational objectives. The results showed that e-

HRM helped to improve employee competencies, but led to cost reduction and a reduction of the administrative burden.

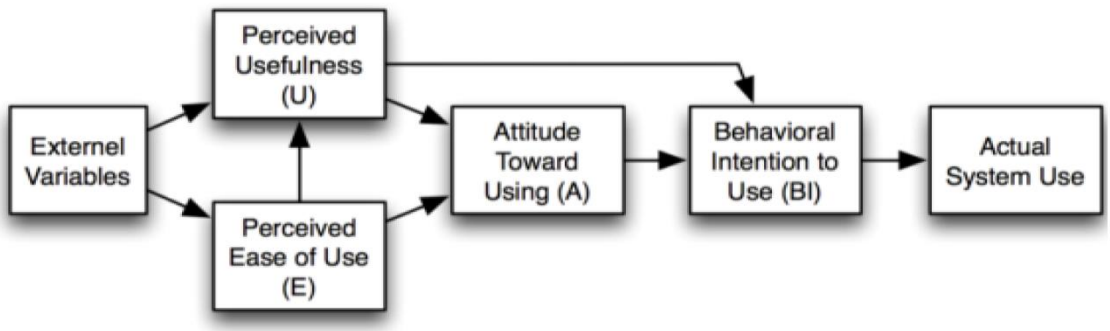
Model (2-1): Ruël, et. al. (2004) Model



Ghazzawi, et. al. (2014) Model:

The study presents a strong influence of perceived ease of use of electronic human resource management on the employee's attitudes of using E-HRM. The study revealed that perceived ease of use is more important than perceived usefulness; it is the main predictor of the attitude towards implementing electronic human resource management.

Model (2-2): Ghazzawi, et. al. (2014) Mode



Strohmeier & Piazza (2015) Model:

The model summarizes the automation and information of staffing, performance management, development, and compensation constitute major task requirement categories.

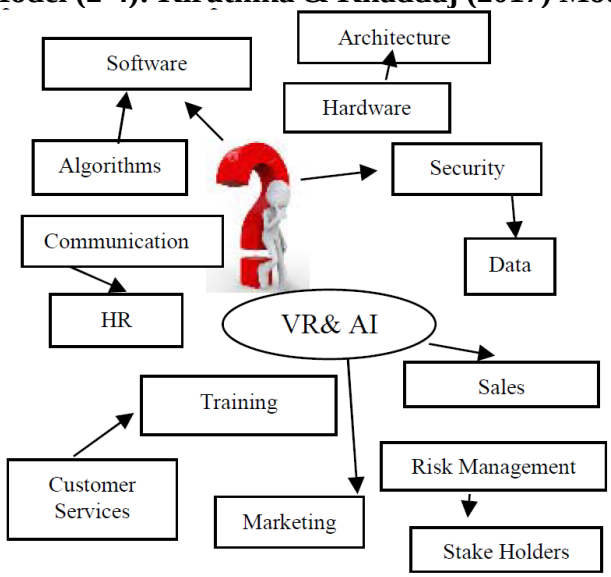
Model (2-3): Strohmeier & Piazza (2015) Model

Staffing		Performance Management		Development		Compensation	
Automation	Information	Automation	Information	Automation	Information	Automation	Information

Kiruthika & Khaddaj (2017) Model:

This model shows how virtual reality and artificial intelligence creates a new dimension to the business and affects crucial decisions for the future continuation of the business, and which areas they impact.

Model (2-4): Kiruthika & Khaddaj (2017) Model

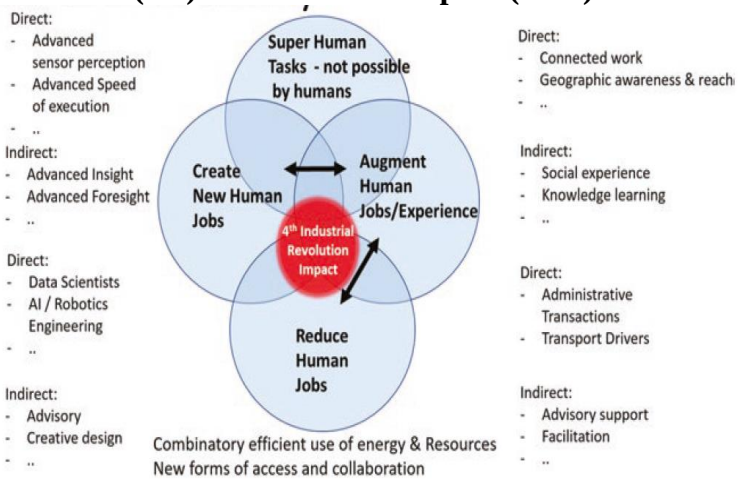


Skilton & Hovsepian (2017) Model:

This model shows the relationship between the adaptations of human work towards AI society. The results showed that the impact of artificial

intelligence and the fusion of intelligent systems into industries, individuals and societies would have a profound impact on the role of the human at work and human experience.

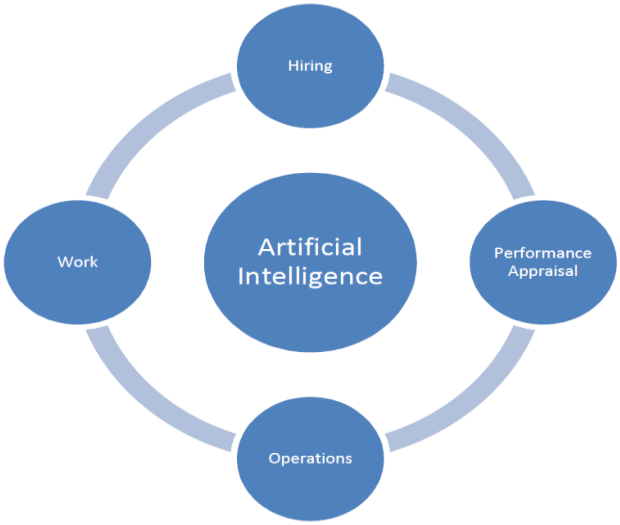
Model (2-5): Skilton & Hovsepian (2017) Model



Garg, et al. (2018) Model:

The framework shows how artificial intelligence can be used by organizations for candidate screening, employee engagement, employee re-engagement and career development without much use of resources and thus decreasing overall environmental impact. The study analyzed the emergence of artificial intelligence in the green HRM process and the potential benefits of artificial intelligence through secondary data.

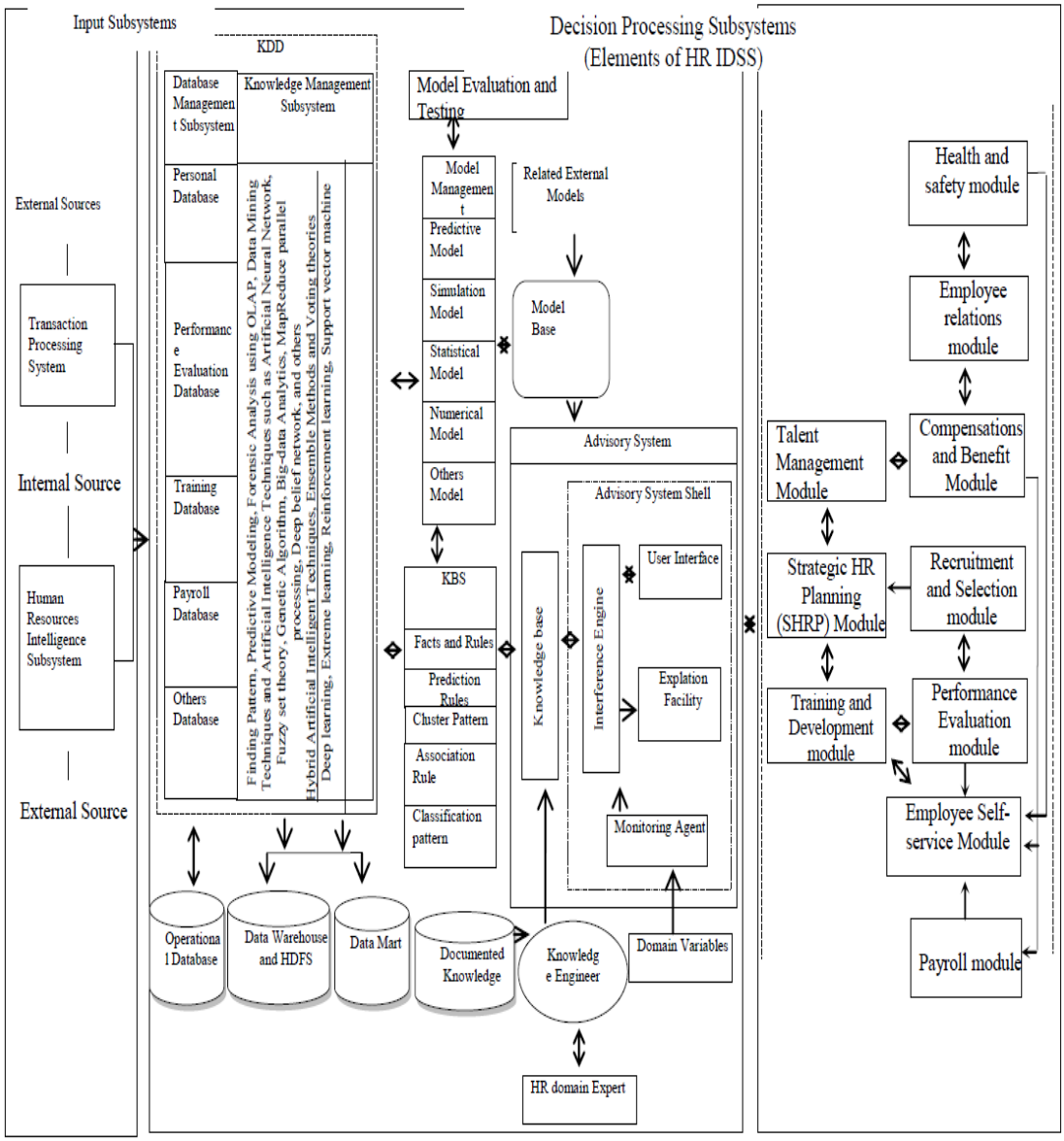
Model (2-6): Garg, et al. (2018) Model



Masum, et. al. (2018) Model:

The model shows the framework of intelligent human resource information systems (i-HRIS) applying an intelligent decision support system (IDSS) to improve structured and unstructured HR decision-making processes. Moreover, the proposed HR IDSS stores and processes information with a set of artificial intelligent (AI) tools such as knowledge-based reasoning, and machine learning. These AI tools are used to discover useful information or knowledge from past data and experience to support the decision-making process.

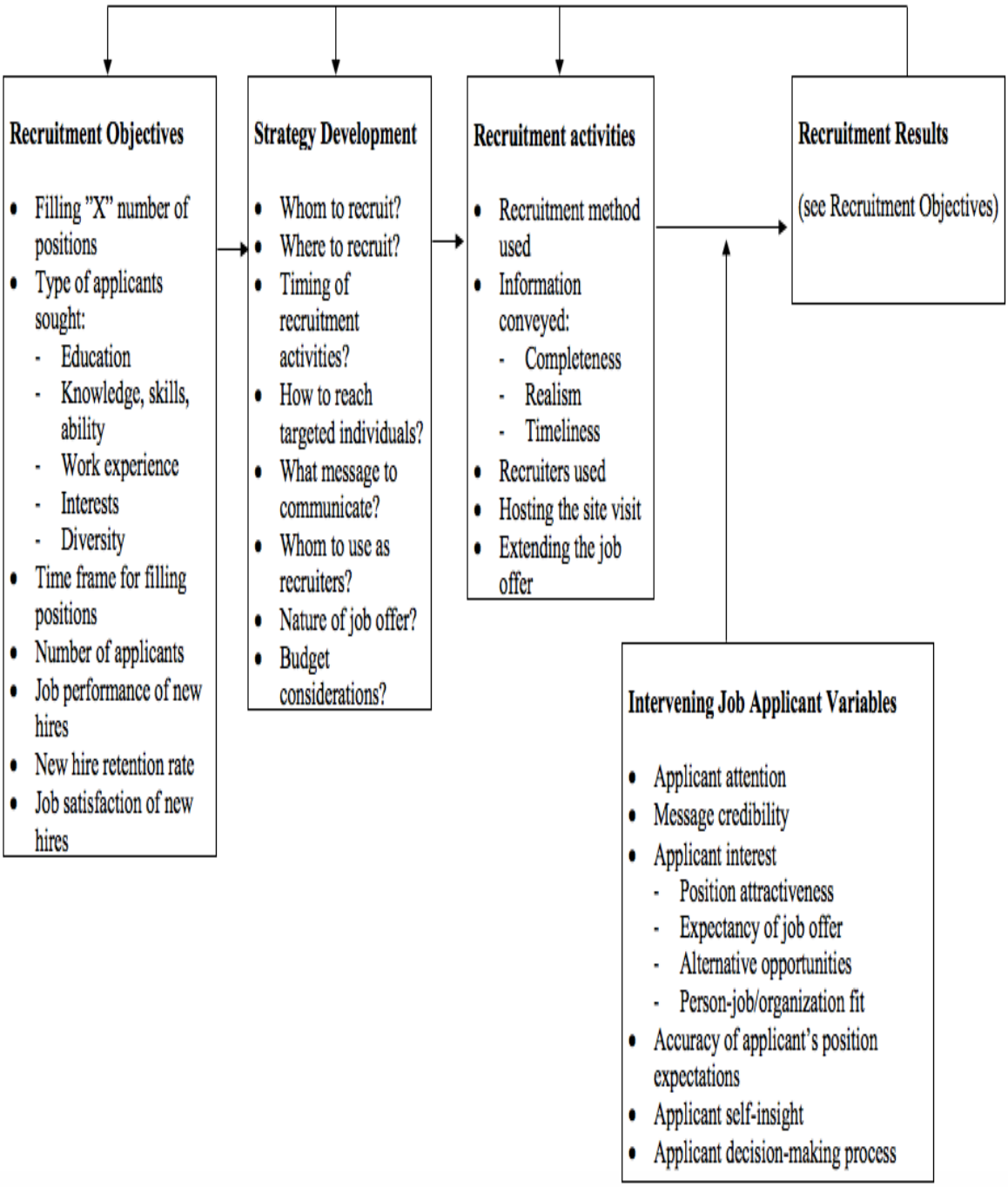
Model (2-7): Masum, et. al. (2018) Model



Oksanen (2018) Model:

This model illustrates the new technology-based recruitment methods, focusing on how they are utilized by recruitment professionals and how the opportunities and risks that these new technological solutions provide in recruitment processes are experienced.

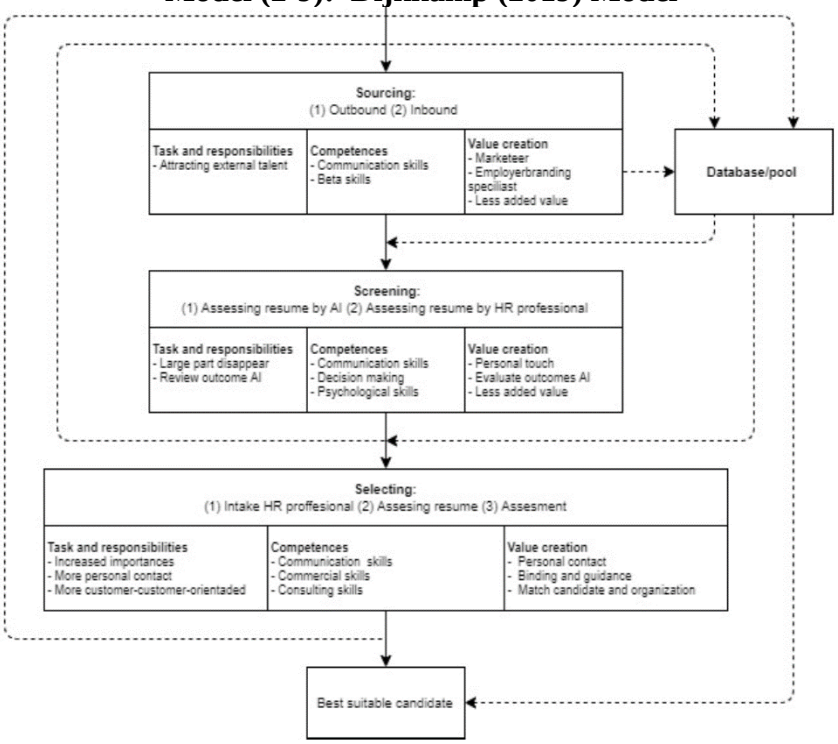
Model (2-8): Oksanen (2018) Model



Dijkkamp (2019) Model:

The model shows the changing role of the HR professional in the recruitment and selection process with the introduction of AI, and presents the tasks and responsibilities, competencies and the way the HR professional creates value in every stage.

Model (2-9): Dijkkamp (2019) Model



2.5 Previous Studies:

Rifkin (1995) study titled **"The end of work: the decline of the global labor force and the dawn of the post-market era"** aimed to discuss the impact of machines on the global labor force, describing how new technologies are stealing jobs in every industry. Data was collected from previous studies and specialty journals. Results showed that information and communication technologies would be able to replace more and more of the global workforce, and wonder how an increasingly underemployed and unemployed global workforce, displaced by the technologies, is going

to be able to afford all of the products and services being turned out by the highly automated machines.

Frey & Osborne (2013) study titled **"The future of employment: how susceptible are jobs to computerization?"** aimed to investigate the impact of future computerization on labor market outcomes, with the primary objective of analyzing the number of jobs at risk. The new novel methodology was used to estimate the probability of computerization for 702 detailed occupations. Results showed that a substantial share of employment in service occupations is susceptible to computerization. It also provided evidence that wages and educational attainment exhibit a strong negative relationship with the probability of computerization.

Ford (2013) study titled **"Could artificial intelligence create an unemployment crisis?"** aimed to discuss how machines automation is taking on intellectual tasks that once were referred to non-routine tasks that required the human brain. Data was collected from previous studies and specialty journals. Results showed that machine intelligence could accomplish every task better and more cheaply than human workers, and by that, it would create an employment crisis that would endanger human workers.

Rotman (2013) study titled **"How technology is destroying jobs"** aimed to investigate the impact of impressive advanced computer technology-from improved industrial robotics to automated services- on employment for the last decade. The data was collected from several different studies and in particular Brynjolfsson's book*: Race against the Machine*. Results showed that automation and digital technologies are partly responsible for today's lack of jobs, and it is clear that it has caused workers to worry about their jobs.

Autor (2015) study titled **"Why Are There Still So Many Jobs? The History and Future of Workplace Automation"** aimed to discuss the consequences that automation has on the majority of jobs over the years and how machines would indeed replace workers. Data were collected from several studies to conclude the positive and negative usage of automation. The results showed a strong complementarity between automation and labor that increases productivity and augment demand for labor.

Davenport & Kirby (2015) study titled **"Beyond automation"** aimed to investigate the impact of technology and artificial intelligence would have on where we work and how we work. Data was collected from previous studies and journals. Results showed that the implementation of artificial intelligence and technological advances in the work environment is neither a blessing nor a curse. Technological advances promote efficiency and cost-savings in the long run, but there is a human value that cannot be replaced by automation.

Arntz, et. al. (2016) study titled **"The risk of automation for jobs in OECD countries"** aimed to discuss two purposes. Firstly, assess job automation for 21 countries taking into account the heterogeneity of employees' tasks and the second purpose is to critically assess studies that create figures on the "risk of computerization" and to discuss the possibility of adjusting processes of companies and workers to automation. The analysis was based on data collected from the international assessment of adult competencies program. The main conclusion from the study was that automation is improbable to destroy huge numbers of jobs but some of them.

H´emous & Olsen (2016) study titled **"The Rise of the Machines: Automation, Horizontal Innovation, and Income Inequality"** aimed to develop a structure for the realization of the relationship between technological change and the income distribution by focusing on two kinds

of innovations, the establishment of new products, and the automation of existing tasks. Data was collected from statistical analysis of variance growth model with low-skill and high-skill workers. The results showed that the rushing process of technological development now allows employees to be replaced by machines. However, there is a negative correlation between the probability of automation of a profession and its average annual wages, proposing a possible rise in short-term inequality.

Autor & Salomons (2017) study titled **"Does Productivity Growth Threaten Employment?"** aimed to apply a comprehensive approach to measure technological progress, studying the employment consequences of rising labor productivity to investigate both the direct and indirect employment effects of productivity growth. The analysis was tested by using country and industry-level data for 19 countries over 35+ years. The results showed that productivity growth has been employment increasing rather than employment decreasing.

Manyika (2017) study titled **"What is the future of work"** aimed to debate what impact automation technology like artificial intelligence (AI) and robotics would have on jobs, skills, and wages. The analysis was based on data collected from international companies. Results showed that between almost zero and 30 percent of the hours worked globally could be automated by 2030, depending on the speed of adoption.

McKinsey & Company (2017) study titled **"Jobs lost, jobs gained: workforce transitions in a time of automation"** aimed to report on automation and its impact on work activities. The study assessed the jobs that could be established under various scenarios through 2030 and compared them to jobs that could be displaced by automation. The analysis covered 46 countries that make up almost 90 percent of global GDP. The

results showed a rich variety of potential changes in occupations in upcoming years, with significant effects on workforce skills and wages.

Wisskirchen, et al. (2017) study titled **"Artificial intelligence and robotics and their impact on the workplace"** aimed to investigate the impact of future trends relating to the impact of artificial intelligence on the labor market and discusses legal, business and economic issues, such as changes in the future labor market and the impact on working time. Data was collected from a collection of complex articles, sources and analysis studies to discuss all the threats and opportunities that artificial intelligence has on the future labor market. The results showed that artificial intelligence is threatening labor in different industries, and on the other hand, it showed that artificial intelligence is opening new opportunities to create new jobs.

Ernst, et. al. (2018) study titled **"The economics of artificial intelligence: Implications for the future of work"** aimed to discusses the rationale fears of losing jobs opportunities, highlighting the specific nature of artificial intelligence and comparing previous waves of automation with the current advancements made possible by the wide-spread adoption of it. Data collected from previous studies and articles. Results found that, based on the automation of a few sectors, automation could generate even more significant (negative) employment effects when artificial intelligence affects a far larger set of job opportunities in industries and occupations.

Frontier Economics (2018) study titled **"The Impact of Artificial Intelligence on Work: An evidence synthesis on implications for individuals, communities, and societies"** aimed to discuss the potential impact of Artificial Intelligence on work in the near and medium-term, and how automation would affect societies in the future. Data was collected from previous studies also from interviews with managers of different levels. Results showed that digital technology and automation have already affected

work over and above the role of trade liberalization. They also showed that there have been individual losses from displacement related to automation.

Grace, et, al. (2018) study titled **"When will AI exceed human performance? Evidence from AI experts"** aimed to investigate how technology might replace millions of jobs over the coming decade. It also discusses possible unemployment, new challenges we might face when artificial intelligence takes over, such as rebuilding infrastructure and adapting laws and regulations. Data was collected by a survey distributed on 352 researchers. Results showed that high-level machine intelligence can accomplish every task better and more cheaply than human workers can.

He (2018) study titled **"Can artificial intelligence make work more human?"** aimed to investigate where AI can be implemented in the traditional recruitment process and possibly make the process more effective, as well as what are the implications of having AI within recruitment. This study used a qualitative study with semi-structured interviews conducted with eight international companies from all over the world. The results showed that the area of AI in recruitment is relatively new and there are not many companies that utilize AI in all parts of their recruitment process. The most suitable parts to implement AI in traditional recruitment include recruitment activities such as pre-selection and communication with candidates and sending out recruitment results for applicants.

Nuefeind, et. al. (2018) study titled **"Work in the digital age: challenges of the fourth industrial revolution"** aimed to provide a wide-ranging, comprehensive analysis of the challenges and opportunities for labor in a period of rapid technological change. Data was collected from a collection of articles. Results showed that employment losses have to be accepted as a minimal cost, due to the automation impact on employment

growth. It also showed that massive employment losses have led to widespread moves away from long-term jobs towards self-employment, linked more closely to new digital technologies, robotics, and artificial intelligence.

Perez, et al. (2018) study titled **"Artificial intelligence and robotics"** aimed to search in the ethical issues in artificial intelligence and the fears about the impact of the technology on the society. Data were collected from several studies and resources to conclude the positive and negative usage of artificial intelligence and its impact on various jobs. Results showed that robots replace already 8% of jobs, and in 2020, this percentage will increase to 26%. It also showed that robots will become increasingly autonomous and be able to interact, execute and make more complex decisions.

Wang & Lin, (2018) study titled **"Research on the Influence of Artificial Intelligence on Human Resource Management Teaching and Work"** aimed to discuss the impact of artificial intelligence on employment arrangement and how to appoint people to suitable positions and give them scientific tasks. This study used a literature analysis of companies and selected 76 companies as a case study. The results showed that human beings are irreplaceable, and there is a significant relationship between AI and employment arrangement in both positive a negative way.

Barboza (2019) study titled **"Artificial Intelligence and HR: The New Wave of Technology"** aimed to discuss the state of artificial intelligence and its impact on HR. Data was collected from secondary data with the base of relevant studies in the field of artificial intelligence on HR. In this regard, various libraries were visited and some on-line journals, books and research papers on the internet were also reviewed. Results showed that with a more productive and efficient workplace begins when

HR leaders implement numerous layers of AI to deliver more value to their organizations.

Cappelli, et. al. (2019) study titled **"Artificial intelligence in human resources management: challenges and a path forward"** aimed to discuss the gap between the promise and reality of artificial intelligence in human resource management and suggest how progress might be made, and also to identify the challenges in using data science techniques for HR tasks. Data was collected based on interviews with CEO's of different technological companies. The results showed that there is a risk to HR leaders that if they do not engage the possibilities of AI, some other functions in the business will take control of it for them.

Fedorov, et. al. (2019) study titled **"Digitalization of human resource management practices and its impact on employees' well-being"** aimed to assess the impact of the processes of the labor activity digitalization on employees, which have not yet received sufficient attention in HRM research and practice. The research methodology included the analysis of data obtained using sociological surveys and content analysis. The results of the study identified the problems resulting from expanding the practice of applying digital technologies in HRM system, proving the negative impact of digitalization processes on employee well-being (along with positive effects), and, therefore, the need to develop management solutions aimed at preserving well-being in the workplace.

Nunn (2019) study titled **"The Emerging Impact of AI on HR"** aimed to investigate the impact of artificial intelligence on HR and the employment process. Data were collected from several studies to conclude the positive and negative usage of artificial intelligence. Results showed that human resource management is the key to the success of any organization but recent technology will help human resources to operate with the help of

machines, which will reduce their work and help them to concentrate more on other aspects of the organization.

Prasanna & Kusuma (2019) study titled **"To Study Impact of Artificial Intelligence on Human Resource Management"** aimed to discuss how well the organization needs to train and re-transform its workforce in understanding, collaborating, and working with AI and robots to improve its human resource management process. A survey (questionnaire) was conducted at 243 firms in high-tech companies in India. The statistical test applied and the results showed that there is a significant impact of artificial intelligence on HRM.

Parveen & Palaniammal (2019) study titled **"A Study on Artificial Intelligence in Human Resource Management Today and Tomorrow"** aimed to discuss the impact of artificial intelligence on human resource management and how it would perform the work of HRM functions in organizations. Data was collected from surveying 112 managers at High-Tech companies. The results showed that in 2025 all the work will change into automation and there will be only 25% of human workers. Though AI evolved to a great degree, the HR department still needs human contribution to do the necessary work for staffing.

2.6 What Differentiates this Current Study from Previous Studies?

1. This study might be considered the first study to investigate the impact of artificial intelligence on employment in High-Tec companies in the Jordanian market, especially in the service sector.

2. The samples of the previous studies and research included specific categories, either beneficiaries or employees, while the current study comprises the samples of employees working in the High-Tech

companies who are concerned about the possibility that the advancement in technology may one day replace human labor and automate their work.

3. Most previous studies considered public shareholder organizations listed in the stock markets, while the current study covered both public and private shareholder organizations.

4. The findings of this study could be helpful to be applied immediately in the Jordanian environment.

Chapter Three: Study Methodology (Methods and Procedures)

3.1 Introduction:

This chapter describes the methodology of the current study used, the study population and sample, study tools and data collections, the validity of questionnaire and reliability analysis that have been stated and applied. Finally, a discussion of statistical treatment used in the analysis of the collected data was addressed.

3.2 Study Design:

This study is deemed a descriptive and cause-effect study. It aims to study the impact of artificial intelligence dimensions (efficiency, automation, and ease of use) on employment dimensions (recruitment, selection, and appointment) in the Jordanian market. It starts with a literature review to develop a model for the study. Then a panel of judges was used and expert interviews were conducted to develop a questionnaire, which used to gather the data. The gathered data was checked and coded on SPSS. Then normality, validity, and reliability were tested and the correlation among variables was checked. Finally, multiple regressions were used to test the hypotheses.

3.3 Study Population, Sample and Unit of Analysis:

The study population consists of managers, supervisors, and employees in High-Tech companies in the Jordanian market.

The sample of the study was chosen by a survey method which negates the need for the study sampling. A list of 900 High-Tech companies was taken from the Amman Chamber of Commerce, including 130 companies related to artificial intelligence. All these companies were

contacted, and (51) companies responded and agreed to participate in this study.

Unit of Analysis: The survey unit of analysis composed of 138 managers, supervisors and employees in High-Tech companies in the Jordanian market, who were available at the time of distributing the questionnaires to participate in the study.

3.4 Data Collection Methods:

For fulfilling the purposes of the study, data was collected from two sources: secondary and primary data as follows:

Primary and Secondary Sources:

Secondary Sources:

Secondary data was collected from different sources such as journals, working papers, research, thesis, articles, and the worldwide web.

Primary Sources:

To actualize this study primary data was collected from managers, supervisors, and employees in High-Tech companies in Jordan by a questionnaire, which was built and developed for this purpose.

Study Tool:

The questionnaire was used as the main tool to actualize this study, which examines the impact of artificial intelligence on employment in High-Tech companies in the Jordanian market. This questionnaire was addressed to managers, supervisors, and employees from different companies, and it consisted of three sections. These are:

1. Section one: demographic variables, containing (gender, age, education, position, and experience).

2. Section two: artificial intelligence, containing three dimensions: AI automation, which contains (5) statements. AI efficiency, which contains (5) statements. AI ease of use, which contains (5) statements.

3. Section three: employment, containing three dimensions: Recruitment, which contains (5) statements. Selection, it contains (5) statements. Appointment, which contains (5) statements.

All items measured by a five-point Likert-type scale to rate the respondent's actual perceptions regarding each item as follows: 1 (strongly unimplemented) to 5 (strongly implemented).

3.5. Data Collection and Analysis:

The researcher distributed (200) questionnaires to participants, (152) questionnaires were returned from the sample, and the researcher excluded (14) questionnaires due to unfinished information, so the questionnaires that valid for analysis were (138). The response rate was (69%) from the original sample, so Table (3-10) shows the demographic characteristics of the study sample

3.5.1. Validity Test:

The tool’s validity was confirmed by using three methods: content, face, and construct. The content validity was established by collecting the data from multiple kinds of literature resources such as articles, thesis, papers, journals, research, and the World Wide Web. Furthermore, face validity was accurately performed by academic reviewers from Middle East University and other universities. The questionnaire was submitted to (13) board of judges, to verify the sincerity of its statements, and to take their opinions, and re-wording of some paragraphs. The required modifications were made to carefully strike a weight degree between the content of resolution in statements.

Construct Validity (Factor Analysis):

The construct validity was confirmed using Principal Component Factor Analysis with Kaiser Meyer Olkin (KMO). The data explanatory and conformity were examined using Principal Factor Analysis. Factor loading more than 0.50 is good and accepted if it exceeds 0.40 (Hair, et. al. 2014). However, Kaiser Meyer Olkin (KMO) is used to measure sampling adequacy, harmony and inter-correlations, KMO values between 0.8 and 1 indicate that a high sampling is adequate, and accepted if it is exceeding 0.6. Another indicator is Bartlett's of Sphericity that was used for the determination of the suitability of data and correlation, whereby if the significant value of data is less than 0.05 at a 95% confidence level, it indicates useful factor analysis. Variance percentage shows the explanation power of factors (Cerny & Kaiser, 1977).

Automation:

Table (3-1): Principal Component Analysis Automation

No.	Item	F1	KMO	Chi^2	BTS	Var%	Sig.
1	The company uses AI to perform processes without human intervention.	0.577	0.702	93.602	10	43.088	0.000
2	The company uses AI to reduce administrative workload.	0.699					
3	The company uses AI to replace manual tasks.	0.674					
4	The company uses AI to substitute repetitive tasks.	0.646					
5	The company uses AI to avoid errors automatically.	0.678					

Table (3-1) shows that the loading factor of automation items scored between 0.577 and 0.699. Therefore, construct validity is assumed. KMO has rated 70.2%, which indicates good adequacy, and the Chi^2 is 93.602, which indicates the fitness of the model. Moreover, the variance percentage

is 43.088, so it can explain 43.08% of the variation. Finally, the significance of Bartlett's Sphericity is less than 0.05, which indicates the factor analysis is useful.

Efficiency:

Table (3-2) shows that the loading factor of efficiency items scored between 0.623 and 0.794. Therefore, construct validity is assumed. KMO has rated 77.2%, which indicates good adequacy, and the Chi^2 is 149.762, which indicates the fitness of the model. Moreover, the variance percentage is 50.572, so it can explain 50.57% of the variation. Finally, the significance of Bartlett's Sphericity is less than 0.05, which indicates the factor analysis is useful.

Table (3-2): Principal Component Analysis Efficiency

No.	Item	F1	KMO	Chi^2	BTS	Var%	Sig.
1	The company uses AI to convert resources efficiently (fewer inputs).	0.623	0.772	149.762	10	50.572	0.000
2	The company uses AI to transform inputs into outputs with high quality.	0.794					
3	The company uses AI in a cost-effective manner.	0.697					
4	The company uses AI to improve productivity.	0.690					
5	The company uses AI to speed working processes.	0.741					

Ease of use:

Table (3-3) shows that the loading factor of ease of use items scored between 0.631 and 0.838. Therefore, construct validity is assumed. KMO has rated 77.6%, which indicates good adequacy, and the Chi^2 is 171.848, which indicates the fitness of the model. Moreover, the variance percentage is 52.364, so it can explain 52.36% of the variation. Finally, the significance of Bartlett's Sphericity is less than 0.05, which indicates the factor analysis is useful.

Table (3-3): Principal Component Analysis Ease of use

No.	Item	F1	KMO	Chi^2	BTS	Var%	Sig.
1	The employee understands AI functions easily.	0.744	0.776	171.848	10	52.364	0.000
2	The employee uses AI systems without much effort.	0.838					
3	The employee uses AI to complete tasks with minimal supervision.	0.707					
4	The employee uses AI to perform tasks easily.	0.682					
5	The employee uses AI to simplify complex tasks.	0.631					

Recruitment:

Table (3-4) shows that the loading factor of recruitment items scored between 0.501 and 0.716. Therefore, construct validity is assumed. KMO has rated 66.2%, which indicates good adequacy, and the Chi^2 is 113.898, which indicates the fitness of the model. Moreover, the variance percentage is 44.221, so it can explain 44.22% of the variation. Finally, the significance of Bartlett's Sphericity is less than 0.05, which indicates the factor analysis is useful.

Table (3-4): Principal Component Analysis Recruitment

No.	Item	F1	KMO	Chi^2	BTS	Var%	Sig.
1	The company uses AI to attract potential candidates.	0.693	0.662	113.898	10	44.221	0.000
2	The company uses AI to improve the recruiter’s response time.	0.698					
3	The company uses AI to discover new talents quickly.	0.716					
4	The company uses AI to filter resumes. (search keywords in resumes)	0.692					
5	The company uses AI to predict employee success.	0.501					

Selection:

Table (3-5) shows that the loading factor of selection items scored between 0.694 and 0.821. Therefore, construct validity is assumed. KMO has rated 78.6%, which indicates good adequacy, and the Chi^2 is 192.349, which indicates the fitness of the model. Moreover, the variance percentage is 55.015, so it can explain 55.01% of the variation. Finally, the significance of Bartlett's Sphericity is less than 0.05, which indicates the factor analysis is useful.

Table (3-5): Principal Component Analysis Selection

No.	Item	F1	KMO	Chi^2	BTS	Var%	Sig.
1	The company uses AI to evaluate candidates for open vacancies.	0.821	0.786	192.349	10	55.015	0.000
2	The company uses AI to test employees for a specific job.	0.731					
3	The company uses AI to reduce human bias.	0.751					
4	The company uses AI to match the right individual with the right job.	0.705					
5	The company uses AI to schedule interviews.	0.694					

Appointment:

Table (3-6): Principal Component Analysis Appointment

No.	Item	F1	KMO	Chi^2	BTS	Var%	Sig.
1	The company uses AI to approve applicants for suitable jobs.	.609	0.739	93.177	10	43.667	0.000
2	The company uses AI to improve candidate engagement.	.721					
3	The company uses AI to choose candidates based on interpersonal skills.	.561					
4	The company uses AI to reduce hiring time.	.636					
5	The company uses AI to schedule interviews.	.756					

Table (3-6) shows that the loading factor of appointment items scored between 0.561 and 0.756. Therefore, construct validity is assumed. KMO has rated 73.9%, which indicates good adequacy, and the Chi^2 is 93.177, which indicates the fitness of the model. Moreover, the variance percentage is 43.667, so it can explain 43.66% of the variation. Finally, the significance of Bartlett's Sphericity is less than 0.05, which indicates the factor analysis is useful.

Artificial Intelligence:

Table (3-7) shows that the loading factor of artificial intelligence items scored between 0.699 and 0.861. Therefore, construct validity is assumed. KMO has rated 60.3%, which indicates good adequacy, and the Chi^2 is 73.635, which indicates the fitness of the model. Moreover, the variance percentage is 61.108, so it can explain 61.10% of the variation. Finally, the significance of Bartlett's Sphericity is less than 0.05, which indicates the factor analysis is useful.

Table (3-7): Principal Component Analysis Artificial Intelligence

No.	Item	F1	KMO	Chi^2	BTS	Var%	Sig.
1	AI Ease of Use	0.699	0.603	73.635	10	61.108	0.000
2	AI Efficiency	0.861					
3	AI Automation	0.777					

Employment:

Table (3-8) shows that the loading factor of employment items scored between 0.774 and 0.894.

Table (3-8): Principal Component Analysis Employment

No.	Item	F1	KMO	Chi^2	BTS	Var%	Sig.
1	Recruitment	0.774	0.637	120.052	10	68.649	0.000
2	Selection	0.813					
3	Appointment	0.894					

Therefore, construct validity is assumed. KMO has rated 63.7%, which indicates good adequacy, and the Chi^2 is 120.052, which indicates the

fitness of the model. Moreover, the variance percentage is 68.649, so it can explain 68.64% of the variation. Finally, the significance of Bartlett's Sphericity is less than 0.05, which indicates the factor analysis is useful.

3.5.2. Reliability test:

To calculate the stability of an instrument study, the researcher used the equation of internal consistency using Cronbach's alpha test shown in Table (3-9). The test results were the values of Cronbach alpha for all variables of the study and identification of generally higher than (60%) which is acceptable in the research and studies (Hair et. al., 2010). Table (3-9) shows that the reliability coefficient for Artificial Intelligence dimensions ranges between 0.666 and 0.764, and for Employment dimensions is between 0.675 and 0.794.

Table (3-9): Cronbach's Alpha for the Study Fields

Variables	Cronbach Alpha
AI Automation	0.666
AI Efficiency	0.751
Ease of Use	0.764
Artificial Intelligence	**0.828**
Recruitment	0.680
Selection	0.794
Appointment	0.675
Employment	**0.849**

3.5.3 Demographic Analysis:

The demographic analysis presented in the below sections based on the characteristics of the valid respondent i.e. frequency and percentage of participants such as gender, age, experience, education, and position.

Gender: Table (3-10) shows that the majority of respondents are males, where 94 (61.1%) were males, and only 44 (31.9%) are females. This is justified since the female’s proportion is low within the scope of tested divisions and this percentage is much higher within other divisions.

Table (3-10): Respondents Gender

		Frequency	Percent
Gender	Male	94	61.1
	Female	44	31.9
	Total	**138**	**100.0**

Age: Table (3-11) shows that the majority of respondents ages are between (25-35 years) 79 (57.2%) out of the total sample. Those aged between (35-45 years) are 40 (29%), respondents younger than 25 years are 11 (8%), and finally, those older than 45 years are 8 (5.8%).

Table (3-11): Respondents Age

		Frequency	Percent
Age	less than 25 years	11	8.0
	25- less than 35 years	79	57.2
	35- less than 45 years	40	29.0
	more than 45 years	8	5.8
	Total	**138**	**100.0**

Experience: Table (3-12) shows that the majority of respondents have an experience between (11-15 years) 44 (31.9%), then respondents experience between (5-10 years) are 39 (28.3%), followed by those with experience less than 5 years 34 (24.6%). Finally, respondents who have more than 15 years' experience are 21 (15.2%).

Table (3-12): Respondents Experience

		Frequency	Percent
Experience	Less than 5 years	34	24.6
	5-10 years	39	28.3
	11-15 years	44	31.9
	above 15 years	21	15.2
	Total	**138**	**100.0**

Education: Table (3-13) shows that the majority of respondents hold a bachelor's degree, where the majority of 108 (78.3%) have a bachelor's degree, 28 (20.3%) have a master's degree, and finally 2 (1.4%) have diploma degree.

Table (3-13): Respondents Education

		Frequency	Percent
Education	Diploma	2	1.4
	Bachelor	108	78.3
	Master	28	20.3
	Total	**138**	**100.0**

Position: Table (3-14) shows that the majority of respondents are employees 66 (47.8%), out of the total respondents after that; 49 (35.5%) are managers; finally, the third category is supervisors 23 (16.7%).

Table (3-14): Respondents Position

		Frequency	Percent
Position	Manager	49	35.5
	Supervisor	23	16.7
	Employee	66	47.8
	Total	**138**	**100.0**

Chapter Four: Data Analysis

4.1 Introduction:

According to the purpose of the research and the research framework presented in the previous chapter, this chapter describes the results of the statistical analysis for the data collected according to the research questions and research hypotheses. Data analysis includes Pearson Bivariate Correlation matrix, a descriptive of the Means and Standard Deviations for the questions of the study and Multiple Regression were used.

4.2 Descriptive Analysis of Study Variables:

The research included a Likert scale as follows:

Strongly Not Implemented	Not Implemented	Neutral	Implemented	Strongly Implemented
1	2	3	4	5

Relative importance, assigned due to:

$$\text{Class Interval} = \frac{\text{Maximum Class} - \text{Minimum Class}}{\text{Number of Level}} = \frac{5 - 1}{3} = \frac{4}{3} = 1.33$$

The low degree ranges from (1.00- 2.33), the medium degree from (2.34 – 3.67), and the high degree from 3.67 – 5.00.

4.2.1 Level of artificial intelligence in High-Tech companies:

The researcher used arithmetic mean, standard deviation, t value, item importance, and importance level to show the level of artificial intelligence in High-Tech companies in the Jordanian market, as shown in Table (4-1).

Table (4-1): Arithmetic Mean, Std. Deviation, T value, Item Importance and Importance level of The Artificial Intelligence in High-Tech Companies

No.	Dimensions	M.	S.D.	t	Sig.	Rank	Impl.
1	AI Automation	3.46	0.66	8.169	0.000	2	Medium
2	AI Efficiency	3.43	0.78	6.490	0.000	3	Medium
3	AI Ease of use	3.47	0.72	7.718	0.000	1	Medium
Total		**3.45**	**0.56**	**9.478**	0.000		**Medium**

(T-tabulated value = 1.960)

As shown in Table (4-1) the means values of (artificial intelligence in High-Tech companies), ranged from (3.43-3.47), where the total mean was of (3.45), with a standard deviation between (0.66-0.78), which is of a medium implementation level.

This indicates that respondents agree on the medium implementation of artificial intelligence dimensions that is supported by high t-value compared to T-tabulated. The average mean is (3.45) with a standard deviation of (0.56), which indicates that the respondents are medium aware and concerned about artificial intelligence, where the t-value is 9.478>T-tabulated = 1.960.

(AI Automation Level)

The researcher used arithmetic mean, standard deviation, item importance, and importance level to show the AI automation level in High-Tech companies, as shown in Table (4-2).

Table (4-2): Arithmetic Mean, Std. Deviation, t value, Item Importance and Importance level of The AI Automation level in High-Tech Companies

No.	Statements	M.	S.D.	t	Sig.	Rank	Impl.
1	The company uses AI to perform processes without human intervention.	3.49	1.03	5.636	0.000	3	Medium
2	The company uses AI to reduce administrative workload.	3.28	0.90	3.585	0.000	5	Medium
3	The company uses AI to replace manual tasks.	3.55	1.06	6.099	0.000	2	Medium
4	The company uses AI to substitute repetitive tasks.	3.41	0.96	4.946	0.000	4	Medium
5	The company uses AI to avoid errors automatically.	3.56	1.05	6.222	0.000	1	Medium
Total		**3.46**	**0.66**	**8.169**	0.000		**Medium**

(T-tabulated value = 1.960)

Table (4-2) shows that the means of automation statements ranged from (3.56-3.28), with a standard deviation between (0.90-1.06). This indicates that respondents agree on the medium implementation of automation statements. This is supported by a high t-value compared to T-tabulated value for items from 1 to 5. The average mean is (3.46) with a standard deviation of (0.66), indicating that the respondents are medium aware and concerned about automation, where the t-value is 8.169>T-tabulated = 1.960.

(AI Efficiency Level)

The researcher used arithmetic mean, standard deviation, item importance, and importance level to show the AI efficiency level in High-Tech Companies, as shown in Table (4-3).

Table (4-3): Arithmetic Mean, Std. Deviation, t value, Item Importance and Importance level of The AI Efficiency level in High-Tech Companies

No.	Statements	M.	S.D.	t	Sig.	Rank	Impl.
1	The company uses AI to convert resources efficiently (fewer inputs).	3.40	1.10	4.240	0.000	3	Medium
2	The company uses AI to transform inputs into outputs with high quality.	3.54	1.03	6.179	0.000	1	Medium
3	The company uses AI in a cost-effective manner.	3.43	1.12	4.560	0.000	2	Medium
4	The company uses AI to improve productivity.	3.38	1.16	3.815	0.000	5	Medium
5	The company uses AI to speed working processes.	3.39	1.06	4.323	0.000	4	Medium
Total		**3.43**	**0.78**	**6.490**	**0.000**		**Medium**

(T-tabulated value = 1.960)

Table (4-3) shows that the means of efficiency statements ranged from (3.38-3.54), with a standard deviation between (1.03-1.16). This indicates that respondents agree on the medium implementation of efficiency statements. This is supported by a high t-value compared to T-tabulated

value for items from 1 to 5. The average mean is (3.43) with a standard deviation of (0.78), indicates that the respondents are medium aware and concerned about efficiency, where the t-value is 6.490>T-tabulated = 1.960.

(AI Ease of use Level)

The researcher used arithmetic mean, standard deviation, item importance, and importance level to show the AI ease of use level in High-Tech companies, as shown in Table (4-4).

Table (4-4): Arithmetic Mean, Std. Deviation, t value, Item Importance and Importance level of The AI Ease of Use level in High-Tech Companies

No.	Statements	M.	S.D.	t	Sig.	Rank	Impl.
1	The employee understands AI functions easily.	3.53	1.08	5.743	0.000	3	Medium
2	The employee uses AI systems without much effort.	3.35	0.88	4.661	0.000	4	Medium
3	The employee uses AI to complete tasks with minimal supervision.	3.57	1.04	6.475	0.000	2	Medium
4	The employee uses AI to perform tasks easily.	3.33	1.00	3.921	0.000	5	Medium
5	The employee uses AI to simplify complex tasks.	3.59	1.02	6.738	0.000	1	Medium
Total		**3.47**	**0.72**	**7.718**	0.000		**Medium**

(T-tabulated value = 1.960)

Table (4-4) shows that the means of ease of use statements ranged from (3.33-3.59), with a standard deviation between (0.88-1.08). This indicates that respondents agree on the medium implementation of ease of use statements. This is supported by a high t-value compared to T-tabulated value for items from 1 to 5. The average mean is (3.47) with a standard deviation of (0.72), indicates that the respondents are medium aware and concerned about the ease of use, where the t-value is 7.718>T-tabulated = 1.960.

4.2.2 Level of the Employment in High-Tech Companies:

The researcher used arithmetic mean, standard deviation, item importance and importance level to show the level of employment in High-Tech companies in the Jordanian market, as shown in Table (4-5).

Table (4-5): Arithmetic Mean, Std. Deviation, t value, Item Importance and Importance level of The Employment in High-Tech Companies

No.	Dimensions	M.	S.D.	t	Sig.	Rank	Impl.
1	Recruitment	3.40	0.70	6.778	0.000	2	Medium
2	Selection	3.43	0.73	6.921	0.000	1	Medium
3	Appointment	3.40	0.66	7.147	0.000	2	Medium
Total		**3.41**	**0.58**	**8.406**	**0.000**		**Medium**

(T-tabulated value = 1.960)

As shown in Table (4-5) that the means values of (employment in High-Tech companies), ranged from (3.40-3.43), where the total mean was of (3.41), which is of a medium implementation level.

This indicates that respondents agree on the medium implementation of employment dimensions that is supported by high t-value compared to T-tabulated. The average mean is (3.41) with a standard deviation of (0.58), which indicates that the respondents are medium aware and concerned about employment, where the t-value is 8.406>T-tabulated = 1.960.

(Recruitment Level)

Table (4-6): Arithmetic Mean, Std. Deviation, t value, Item Importance and Importance level of The Recruitment level in High-Tech Companies

No.	Statements	M.	S.D.	t	Sig.	Rank	Impl.
1	The company uses AI to attract potential candidates.	3.63	1.05	7.028	0.000	1	Medium
2	The company uses AI to improve the recruiter's response time.	3.38	1.05	4.225	0.000	3	Medium
3	The company uses AI to discover new talents quickly.	3.35	1.06	3.863	0.000	4	Medium
4	The company uses AI to filter resumes.	3.41	1.08	4.421	0.000	2	Medium
5	The company uses AI to predict employee success.	3.25	1.03	2.885	0.005	5	Medium
Total		**3.40**	**0.70**	**6.778**	0.000		Medium

(T-tabulated value = 1.960)

The researcher used arithmetic mean, standard deviation, item importance and importance level to show the recruitment level in High-Tech companies, as shown in Table (4-6).

Table (4-6) shows that the means of recruitment statements ranged from (3.25-3.63), with a standard deviation between (1.03-1.08). This indicates that respondents agree on the medium implementation of recruitment statements. This is supported by a high t-value compared to T-tabulated value for items from 1 to 5. The average mean is (3.40) with a standard deviation of (0.70), indicates that the respondents are medium aware and concerned about recruitment, where the t-value is 6.778>T-tabulated = 1.960.

(Selection Level)

The researcher used arithmetic mean, standard deviation, item importance and importance level to show the selection level in High-Tech companies, as shown in Table (4-7).

Table (4-7): Arithmetic Mean, Std. Deviation, t value, Item Importance and Importance level of The Selection level in High-Tech Companies

No.	Statements	M.	S.D.	t	Sig.	Rank	Impl.
1	The company uses AI to evaluate candidates for open vacancies.	3.49	0.99	5.757	0.000	2	Medium
2	The company uses AI to test employees for a specific job.	3.36	0.97	4.371	0.000	4	Medium
3	The company uses AI to reduce human bias.	3.54	0.99	6.362	0.000	1	Medium
4	The company uses AI to match the right individual with the right job.	3.33	0.98	4.010	0.000	5	Medium
5	The company uses AI to schedule interviews.	3.44	1.02	5.100	0.000	3	Medium
Total		**3.43**	**0.73**	**6.921**	**0.000**		**Medium**

(T-tabulated value = 1.960)

Table (4-7) shows that the means of selection statements ranged from (3.33-3.54), with a standard deviation between (0.97-1.02). This indicates

that respondents agree on the medium implementation of selection statements. This is supported by a high t-value compared to T-tabulated value for items from 1 to 5. The average mean is (3.43) with a standard deviation of (0.73), indicates that the respondents are medium aware and concern about selection, where the t-value is 6.921>T-tabulated = 1.960.

(Appointment)

The researcher used arithmetic mean, standard deviation, item importance and importance level to show the appointment level in High-Tech companies, as shown in Table (4-8).

Table (4-8): Arithmetic Mean, Std. Deviation, t value, Item Importance and Importance level of The Appointment level in High-Tech Companies

No.	Statements	M.	S.D.	t	Sig.	Rank	Impl.
1	The company uses AI to approve applicants for suitable jobs.	3.44	0.98	5.289	0.000	3	Medium
2	The company uses AI to improve candidate engagement.	3.50	1.03	5.719	0.000	1	Medium
3	The company uses AI to choose candidates based on interpersonal skills.	3.25	0.97	3.081	0.002	5	Medium
4	The company uses AI to reduce hiring time.	3.35	0.96	4.272	0.000	4	Medium
5	The company uses AI to make ethical employment decisions.	3.47	1.08	5.114	0.000	2	Medium
Total		**3.41**	**0.58**	**8.406**	**0.000**		**Medium**

(T-tabulated value = 1.960)

Table (4-8) shows that the means of appointment statements ranged from (3.25-3.50), with a standard deviation between (0.96-1.08). This indicates that respondents agree on the medium implementation of appointment statements. This is supported by a high t-value compared to T-tabulated value for items from 1 to 5. The average mean is (3.41) with a standard deviation of (0.58), indicates that the respondents are medium

aware and concerned about the appointment, where the t-value is 8.406>T-tabulated = 1.960.

4.2.3 Relationship between Independent and Dependent Variables:

Bivariate Pearson Correlation Test was used to show the relationship between variables of the study which presented independent variable artificial intelligence (automation, efficiency, and ease of use) and dependent variable employment (recruitment, selection, and appointment), Table (4-9) shows that the relationship among variables was strong and positive were (R) values ranged between (0.270-0.877) which is significant at level of (0.01).

Table (4-9): That the Relationship between Variables

No.		1	2	3	4	5	6	7	8
1	AI Ease of Use								
2	AI Efficiency	.433**							
3	AI Automation	.270**	.533**						
4	Artificial intelligence	.733**	.854**	.751**					
5	Recruitment	.334**	.466**	.526**	.563**				
6	Selection	.282**	.438**	.441**	.494**	.387**			
7	Appointment	.283**	.450**	.431**	.497**	.565**	.628**		
8	Employment	.363**	.546**	.564**	.627**	.784**	.820**	.877**	

**significant at the level of (0.01)

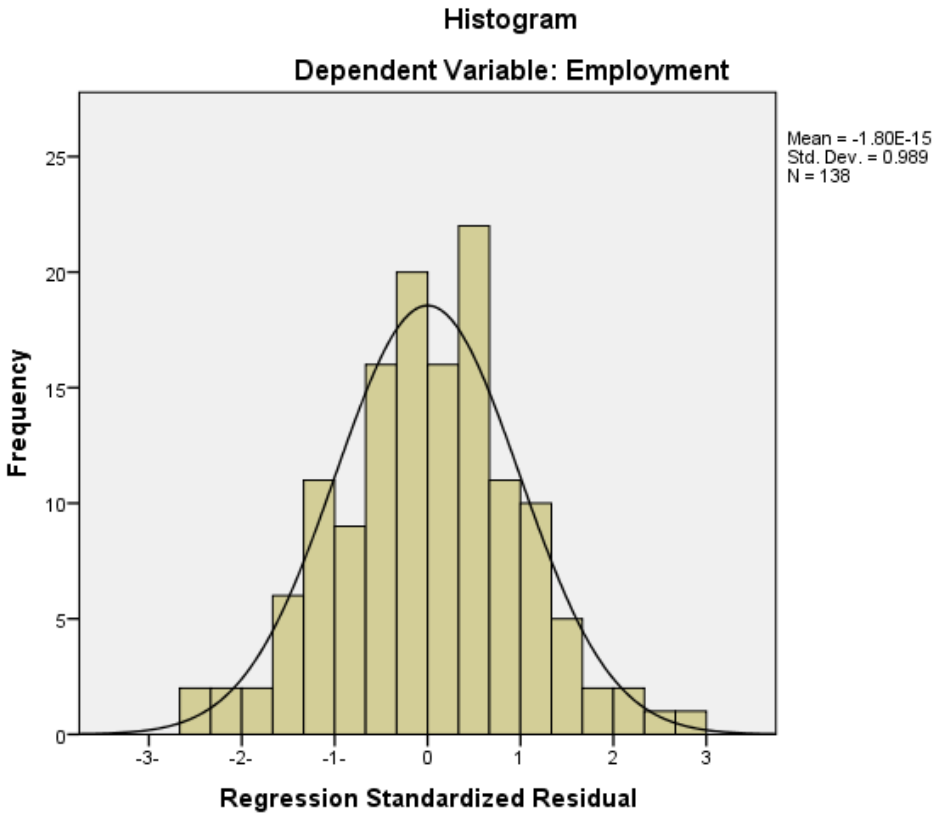
Table (4-9) shows that the relationships among artificial intelligence dimensions are medium, where r ranges from (0.270-0.533). Moreover, the relationships among employment dimensions are medium to strong, where r ranges between (0.387-0.628). Finally, the relationship between independent and dependent variables is strong and positive, where r equals (0.627).

4.3 The Research Hypotheses:

After approving validity, reliability and the correlation between independent and dependent variables, the following tests should be carried out to confirm the validity of regression analysis. (Sekaran, 2003):

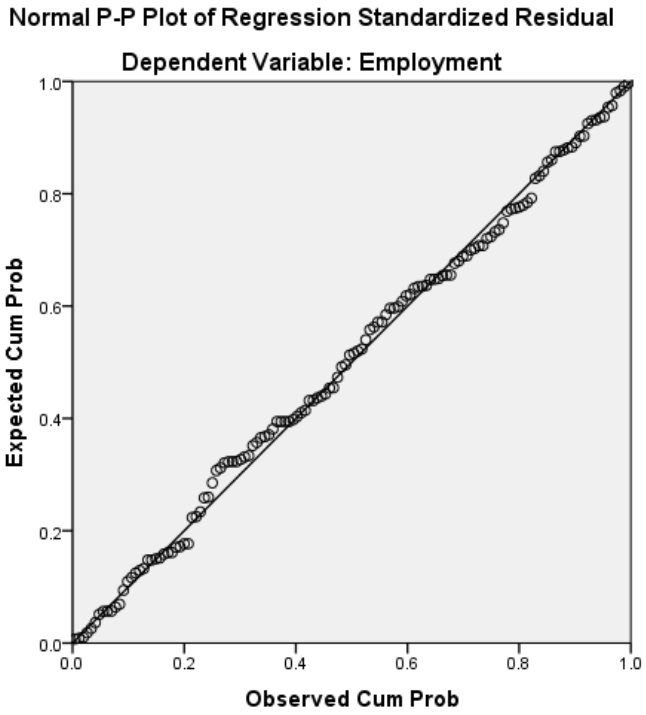
Normality Test: Figure (4-1) shows that if a data set is well modeled by a normal distribution and to compute how likely it is for a random variable underlying the data set to be normally distributed.

Figure (4-1): Normality Test



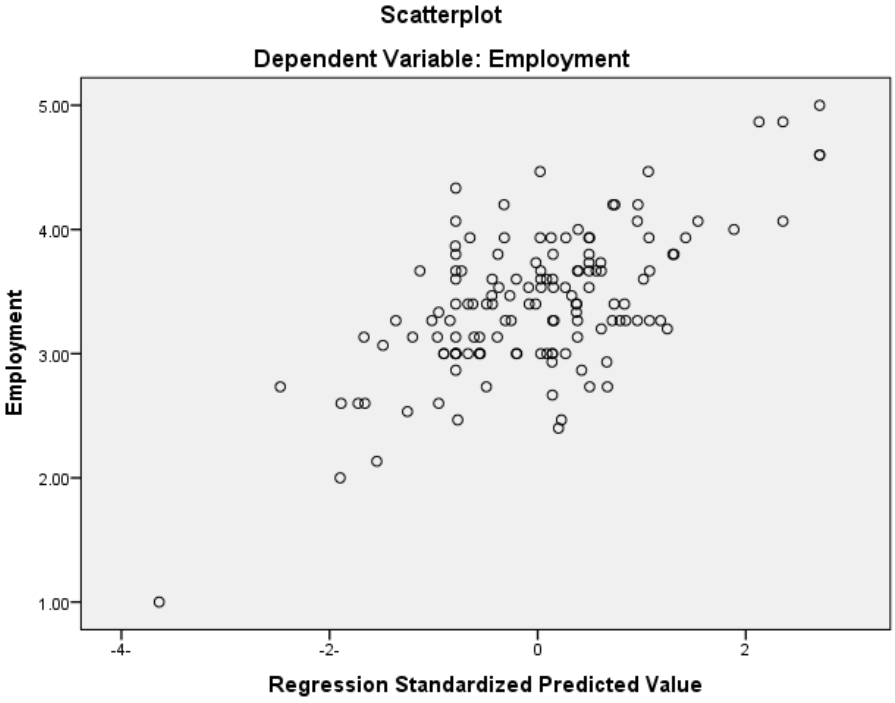
Linearity Test: Figure (4-2) assumes that the relationship between the independent and dependent variables is linear. When the relationship is linear it is expected that the points above and below the line are randomly scattered, and the statistic is small.

Figure (4-2): Linearity Test



Equal variance (homoscedasticity): Figure (4-3) shows that the errors are scattered around the mean, therefore there is no relation between errors and predicted values.

Figure (4-3): Equal variance



Multi-Collinearity: Variance Inflation Factor (VIF) value is less than 10, and tolerance is more than 10%, where one predictor variable in a multiple regression model can be linearly predicted from the others with a substantial degree of accuracy.

Table (4-10): Durbin-Watson Value and Variance Inflation Factor

Dimensions	Collinearity Statistics	
	Tolerance	VIF
AI Ease of Use	0.810	1.235
AI Efficiency	0.626	1.599
AI Automation	0.714	1.400

Main Hypothesis:

H01: Artificial Intelligence Dimensions (Automation, Efficiency, and Ease of Use) Do Not Impact Employment in High-Tech Companies in the Jordanian Market, at (A≤0.05).

Table (4-11) shows the multiple regression of the three dimensions of artificial intelligence and its impact on employment in High-Tech companies in the Jordanian market, the artificial intelligence can explain (41.8%) of the variation of employment, where (R^2=0.418, F=32.051, Sig= 0.000). Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted, which stipulated artificial intelligence dimensions (automation, efficiency, and ease of use) do not impact employment in High-Tech companies in the Jordanian market, at (α≤0.05).

Table (4-11): Multiple Regressions of the Artificial Intelligence Dimensions on Employment.

Model	r	R^2	Adjusted R^2	f	Sig.
1	0.646[a]	0.418	0.405	32.051	0.000*

a. Predictors: (Constant), AI automation, AI efficiency, and AI ease of use, b. Dependent Variable: Employment

Multiple Regression analysis was used to ensure the impact of artificial intelligence dimensions (automation, efficiency, and ease of use) on employment in High-Tech companies in the Jordanian market, at ((α≤0.05).

Table (4-12): Multiple Regressions of the Artificial Intelligence Dimensions on Employment.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	β		
Constant	1.164	0.245			
Automation	0.329	0.069	0.374	4.798	0.000*
Efficiency	0.213	0.062	0.287	3.447	0.001*
Ease of use	0.110	0.059	0.137	1.871	0.063

** Significant at the level of (0.05), T-tabulated=1.960

It is clear from Table (4-12) that the variables (automation and efficiency) have an impact on employment in High-Tech companies in the Jordanian market, reaching calculated t-values of (4.798, 3.447), respectively. Values significant at the level of significance ($\alpha \geq 0.05$), have not shown any impact of (ease of use) on employment. This amounted to (t) (1.871) and it is not significant at the level of significance ($\alpha \geq 0.05$).

In summary, the result of multiple regressions analysis shows that artificial intelligence dimensions together impact employment, where (R^2=0.418, F=32.051, Sig. =0.000). Automation has the highest impact rated 37.4%, then efficiency rated at 28.7%, while the ease of use does not significantly impact employment. It seems respondents believe that ease of use does not significantly impact employment dimensions.

Chapter Five: Results' Discussion, Conclusion, and Recommendations

5.1 Results' Discussion:

The results of this study show the implementation of artificial intelligence dimensions in High-Tech companies in the Jordanian market. The Ease of use has the highest implementation rate among the dimensions, then automation, followed by efficiency, which all have a medium implementation rate. The findings show that the implementation of employment dimensions, selection has the highest implementation rate among the dimensions, followed by recruitment and appointment.

Table (5-1) summarizes the impact matrix among the artificial intelligence dimensions on employment (selection, recruitment, and appointment) via ANOVA analysis, the results as follow:

Table (5-1): Summary of Multiple Regressions Artificial Intelligence Dimensions on Employment (Selection, Recruitment, and Appointment) (ANOVA)

Artificial Intelligence Dimensions	Employment
Automation	+
Efficiency	+
Ease of Use	

1. The significant impact of the total artificial intelligence on the total employment, which was supported by previous studies Frey and Osborne, (2013), and McKinsey & Company, (2017).

2. The significant impact of the total artificial intelligence on total employment, which was supported by the previous study (Wisskirchen, et. al. 2017). The artificial intelligence would impact the global labor market in the next years, and lead to mass unemployment.

3. The significant impact of artificial intelligence dimensions on the total employment except for ease of use (although it has a medium

implementation rate).

4. The significant impact of artificial intelligence dimensions on the total employment which was supported by a previous study (Fedorov, et. al. 2019). The artificial intelligence technologies affect the company's business strategy and the HR practices and are being perceived by many as a real threat to human employees' jobs.

5. Automation has a significant impact on employment dimensions, which was supported by a previous study (Autor, 2015).

6. The significant impact of AI automation which supported by a previous study (Frontier, 2018). The industrial automation tied with employment and would affect labor with low and medium levels of formal education.

7. Efficiency has a significant impact on employment dimensions, which was supported by a previous study (Ashtiani Abdi, et. al. (2019).

5.2 Conclusion:

This study is devoted to answering the study main question: do artificial intelligence dimensions (automation, efficiency, and ease of use) have an impact on employment in High-Tech companies in the Jordanian market? Data collected via a questionnaire, which was tested for its validity and reliability. Then correlation and multiple regressions were used to test the hypotheses.

The results of this study show that the implementation of artificial intelligence dimensions is medium in High-Tech companies in the Jordanian market. The ease of use has rated medium implementation, followed by automation, then efficiency. Moreover, the findings show that implementation of employment dimensions, where selection rated medium implementation, followed by recruitment, then appointment, respectively.

Moreover, results show that the relationship between artificial

intelligence dimensions is medium, the relationship among employment dimensions is medium to strong, and the relationship between independent and dependent variables is strong and positive.

Finally, results indicate that there is a significant impact of the total artificial intelligence on total employment in High-Tech companies in the Jordanian market. Moreover, automation has rated the highest impact on employment, then efficiency, while ease of use does not show a significant impact on total employment dimensions.

Based on the conclusion above, AI has a significant impact on employment dimensions and could improve and add value to High-Tech companies. Therefore, it is a potential threat to the current state of job opportunities.

It can be said that this unemployment problem occurs under a two-dimensional structure. The first is related to which AI extent efficiency has a significant impact on employment processes so it may cause misconceptions by taking decisions of candidates depending on the responses of candidates by ignoring stress, psychological situation, pressure, and similar factors. Another dimension of unemployment is the fact that artificial intelligence practices, which are defined as automatic and robotic applications, cause individuals to stay out of production activities. Employers will be able to lay people off by choosing machines that they do not pay for working hours.

5.3 Recommendations:

5.3.1 Recommendations for High-Tech Companies in Jordan:

- The study recommends that High-Tech companies in Jordan have to use AI to reduce administrative workload.

- The study recommends that High-Tech companies in Jordan have to use AI to simplify tasks.
- The study recommends that High-Tech companies in Jordan have to use AI to predict employee's success.
- The study recommends that High-Tech companies in Jordan have to use AI to choose a candidate based on their skills.

5.3.2 Recommendations for Academics and Future Research:

- This study is carried out on High-Tech companies in Jordan. To be able to generalize the current study results, it is recommended to conduct such a study on the same industry in other countries, especially, Arab countries because they have a similar social and cultural lifestyle.
- This study is carried out on High-Tech companies in Jordan; therefore, it is advised to apply the same variables on other manufacturing industries.
- This study is carried out within a limited period; therefore, it is advised to repeat this study after a suitable time to check sector development.

Extending the analyses to other industries and countries represent future research opportunities, which can be done by further testing with larger samples within the same industry, and including other industries will help mitigate the issue of generalizing conclusions on others.

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Appendices

Appendix (1)**: Panel of Referees Committee:**

No.	Name	Qualification	Organization
1	Prof. Hussein Al-Yaseen	Full Professor	Amman Al-Ahliyya University
2	Prof. Samer Barakat	Full Professor	Applied Science Private University
3	Prof. Ahmad Ali Saleh	Associate Professor	Middle East University
4	Prof. Nidal Al-Salhi	Associate Professor	Petra University
5	Prof. Saleh Abu-Soud	Associate Professor	Princess Sumaya university
6	Dr. Mohammed Al-Shahatit	Assistant Professor	Princess Sumaya university
7	Dr. Ibrahim Yousef	Assistant Professor	Petra University
8	Dr. Fayez Al-Badri	Assistant Professor	Middle East University
9	Dr. Tamer Qubartai	Assistant Professor	Petra University
10	Dr. Sameer Al-Jabali	Associate Professor	Middle East University
11	Dr. Abdullah Al-Bataineh	Associate Professor	Middle East University
12	Dr. Abdullah Aref	Assistant Professor	Princess Sumaya university
13	Dr. Fadi Masalha	Assistant Professor	Applied Science Private University

Appendix (2): Questionnaire of Respondents:

جـــامـعـــة الـــشـرق الأوسـط
MIDDLE EAST UNIVERSITY
Amman - Jordan

Dear Participant:

The purpose of this master thesis is to study "The Impact of Artificial Intelligence on Employment in High-Tech Companies in the Jordanian Market."

This research contains 30 questions, which may take 10 minutes to answer it; therefore, we will be thankful to you for devoting your valuable time to answer it .

Your answers will be top confidential and will be used for research purposes only.

Again, we appreciate your participation in this research. Please, if you have any questions or comments, please contact me at (nour.abu.khaled90@gmail.com).

Thank you for your fruitful cooperation.

Researcher: Nour Khalil Abu-Khaled
Supervisor: Dr. Abdel-Aziz Ahmad Sharabati

Study Questionnaire

Part one: Demographic information

Company Name:

Gender:	□ Male	□ Female		
Age (years):	□ less than 25	□ 25-35	□ 35-45	□ above 45
Education:	□ High School	□ Diploma	□ Bachelor	□ Master
Position:	□ Employee	□ Supervisor	□ Manager	
Experience:	□ Less than 5	□ 5-10	□ 11-15	□ Above 15

Part two: The following 30 questions tap into your perception about the actual implementation of Artificial Intelligence variable and Employment dimensions. Please answer the following questions based on your knowledge and experience about the statement taking into consideration that:

[1 = strongly not implemented, 2 = not implemented, 3 = neutral, 4 = implemented, 5 = strongly implemented].

Artificial Intelligence (AI): is the computer system and applications that are able to perform normal tasks requiring human intelligence. Companies use AI to automate their employment processes.

AI Automation

1	The company uses AI to perform processes without human intervention.	1	2	3	4	5
2	The company uses AI to reduce administrative workload.	1	2	3	4	5
3	The company uses AI to replace manual tasks.	1	2	3	4	5
4	The company uses AI to substitute repetitive tasks.	1	2	3	4	5
5	The company uses AI to avoid errors automatically.	1	2	3	4	5

AI Efficiency

1	The company uses AI to convert resources efficiently (fewer inputs).	1	2	3	4	5
2	The company uses AI to transform inputs into outputs with high quality.	1	2	3	4	5
3	The company uses AI in a cost-effective manner.	1	2	3	4	5
4	The company uses AI to improve productivity.	1	2	3	4	5
5	The company uses AI to speed working processes.	1	2	3	4	5

AI Ease of Use

1	The employee understands AI functions easily.	1	2	3	4	5
2	The employee uses AI systems without much effort.	1	2	3	4	5
3	The employee uses AI to complete tasks with minimal supervision.	1	2	3	4	5
4	The employee uses AI to perform tasks easily.	1	2	3	4	5
5	The employee uses AI to simplify complex tasks.	1	2	3	4	5

Employment: is the process of recruiting, selecting and appointing the right employees who will fit well with job requirements in the organization.

Recruitment

1	The company uses AI to attract potential candidates.	1	2	3	4	5
2	The company uses AI to improve the recruiter's response time.	1	2	3	4	5
3	The company uses AI to discover new talents quickly.	1	2	3	4	5
4	The company uses AI to filter resumes. (search keywords in resumes)	1	2	3	4	5
5	The company uses AI to predict employee success.	1	2	3	4	5

Selection

1	The company uses AI to evaluate candidates for open vacancies.	1	2	3	4	5
2	The company uses AI to test employees for a specific job.	1	2	3	4	5
3	The company uses AI to reduce human bias.	1	2	3	4	5
4	The company uses AI to match the right individual with the right job.	1	2	3	4	5
5	The company uses AI to schedule interviews.	1	2	3	4	5

Appointment

1	The company uses AI to approve applicants for suitable jobs.	1	2	3	4	5
2	The company uses AI to improve candidate engagement.	1	2	3	4	5
3	The company uses AI to choose candidates based on interpersonal skills.	1	2	3	4	5
4	The company uses AI to reduce hiring time.	1	2	3	4	5
5	The company uses AI to make ethical employment decisions.	1	2	3	4	5

Appendix (3): Questionnaire of Respondents (Arabic version):

عزيزي المشارك:

تهدف رسالة الماجستير هذه إلى دراسة "تأثير الذكاء الاصطناعي على التوظيف في شركات التكنولوجيا عالية التقانة في السوق الأردني".
يحتوي هذا الاستبيان على 30 سؤالًا، والذي قد يستغرق 10 دقائق للإجابة عليه؛ لذلك، سنكون ممتنين على تخصيص وقتك الثمين للرد عليه.

علماً أن إجاباتك ستكون سرية للغاية وسيتم استخدامها لأغراض البحث فقط.

مرة أخرى، نقدر مشاركتك في هذا البحث. من فضلك، إذا كان لديك أي أسئلة أو تعليقات، يرجى التواصل معي على (nour.abu.khaled90@gmail.com).

شكراً جزيلًا لتعاونكم.

الباحثة: نور خليل أبو خالد.
المشرف الأكاديمي: الدكتور عبد العزيز الشرباتي.

الاستبيان

الجزء الأول: المعلومات الديموغرافية

اسم الشركة:

الجنس:	□ ذكر	□ أنثى		
العمر (بالسنوات):	□ أقل من 25	□ 25-35	□ 35-45	□ فوق 45
التعليم:	□ ثانوية	□ دبلوم	□ بكالوريوس	□ ماجستير
الوظيفة:	□ موظف	□ مشرف	□ مدير	
الخبرة:	□ أقل من 5	□ 5-10	□ 11-15	□ 15 فأكثر

الجزء الثاني: توضح الأسئلة التالية العلاقة بين التطبيق الحالي للذكاء الاصطناعي عملية التوظيف. يرجى الإجابة على الأسئلة التالية بناءً على معرفتك وخبرتك، اخذاً بعين الاعتبار أن:
[1 = غير مطبق بقوة ، 2 = غير مطبق ، 3 = محايد ، 4 = مطبق ، 5 = مطبق بقوة].

الذكاء الاصطناعي (AI): هو أنظمة الكمبيوتر والتطبيقات القادرة على أداء المهام العادية التي تتطلب الذكاء البشري. تستخدم الشركات الذكاء الاصطناعى لأتمتة عملية التوظيف الخاصة بهم.

أتمتة الذكاء الاصطناعي (AI Automation)

1	تستخدم الشركة الذكاء الاصطناعي (AI) لإجراء العمليات دون تدخل بشري.	1	2	3	4	5
2	تستخدم الشركة الذكاء الاصطناعي (AI) لتخفيف عبء العمل الإداري.	1	2	3	4	5
3	تستخدم الشركة الذكاء الاصطناعي (AI) لاستبدال المهام اليدوية.	1	2	3	4	5
4	تستخدم الشركة الذكاء الاصطناعي (AI) لاستبدال المهام المتكررة.	1	2	3	4	5
5	تستخدم الشركة الذكاء الاصطناعي (AI) لتجنب الأخطاء تلقائيًا.	1	2	3	4	5

كفاءة الذكاء الاصطناعي (AI Efficiency)

1	تستخدم الشركة الذكاء الاصطناعي (AI) لتحويل الموارد بكفاءة (عدد أقل من المدخلات).	1	2	3	4	5
2	تستخدم الشركة الذكاء الاصطناعي (AI) لتحويل المدخلات إلى مخرجات بجودة عالية.	1	2	3	4	5
3	تستخدم الشركة الذكاء الاصطناعي (AI) بطريقة فعالة من حيث التكلفة.	1	2	3	4	5
4	تستخدم الشركة الذكاء الاصطناعي (AI) لتحسين الإنتاجية.	1	2	3	4	5
5	تستخدم الشركة الذكاء الاصطناعي (AI) لتسريع عمليات العمل.	1	2	3	4	5

سهولة الاستخدام الذكاء الاصطناعي (AI Ease of Use)

1	يفهم الموظف مهام الذكاء الاصطناعي (AI) بسهولة.	1	2	3	4	5
2	يستخدم الموظف أنظمة الذكاء الاصطناعي (AI) دون بذل الكثير من الجهد.	1	2	3	4	5
3	يستخدم الموظف الذكاء الاصطناعي (AI) لإكمال المهام بأدنى حد من الإشراف.	1	2	3	4	5
4	يستخدم الموظف الذكاء الاصطناعي (AI) لأداء المهام بسهولة.	1	2	3	4	5
5	يستخدم الموظف الذكاء الاصطناعي (AI) لتبسيط المهام المعقدة.	1	2	3	4	5

التوظيف: هي عملية استقطاب واختيار وتعيين الموظفين المناسبين الذين يتناسبون بشكل جيد مع متطلبات الوظيفة في الشركة.

الاستقطاب (Recruitment)

1	تستخدم الشركة الذكاء الاصطناعي (AI) لجذب المرشحين المحتملين.	1	2	3	4	5
2	تستخدم الشركة الذكاء الاصطناعي (AI) لتحسين وقت استجابة المستقطب.	1	2	3	4	5
3	تستخدم الشركة الذكاء الاصطناعي (AI) لاكتشاف المواهب الجديدة بسرعة.	1	2	3	4	5
4	تستخدم الشركة الذكاء الاصطناعي (AI) لتصفية السير الذاتية. (البحث عن الكلمات الرئيسية في السير الذاتية)	1	2	3	4	5
5	تستخدم الشركة الذكاء الاصطناعي (AI) للتنبؤ بنجاح الموظف.	1	2	3	4	5

الاختيار (Selection)

1	تستخدم الشركة الذكاء الاصطناعي (AI) لتقييم المرشحين للوظائف الشاغرة.	1	2	3	4	5
2	تستخدم الشركة الذكاء الاصطناعي (AI) لاختبار الموظفين لوظيفة محددة.	1	2	3	4	5
3	تستخدم الشركة الذكاء الاصطناعي (AI) للحد من التحيز البشري.	1	2	3	4	5
4	تستخدم الشركة الذكاء الاصطناعي (AI) لوضع الشخص المناسب في الوظيفة المناسبة.	1	2	3	4	5
5	تستخدم الشركة الذكاء الاصطناعي (AI) لجدولة المقابلات.	1	2	3	4	5

التعيين (Appointment)

1	تستخدم الشركة الذكاء الاصطناعي (AI) للموافقة على المتقدمين للوظائف المناسبة.	1	2	3	4	5
2	تستخدم الشركة الذكاء الاصطناعي (AI) لتحسين مشاركة المرشح للوظيفة.	1	2	3	4	5
3	تستخدم الشركة الذكاء الاصطناعي (AI) لاختيار المرشحين بناءً على مهارات التعامل مع الآخرين.	1	2	3	4	5
4	تستخدم الشركة الذكاء الاصطناعي (AI) لتقليل وقت التوظيف.	1	2	3	4	5
5	تستخدم الشركة الذكاء الاصطناعي (AI) لاتخاذ قرارات التوظيف الأخلاقية.	1	2	3	4	5

Data Analysis:

Frequencies

Frequency Table

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	94	68.1	68.1	68.1
	Female	44	31.9	31.9	100.0
	Total	138	100.0	100.0	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 25 years	11	8.0	8.0	8.0
	25- less than 35 years	79	57.2	57.2	65.2
	35- less than 45 years	40	29.0	29.0	94.2
	more than 45 years	8	5.8	5.8	100.0
	Total	138	100.0	100.0	

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	diploma	2	1.4	1.4	1.4
	Bachelore	108	78.3	78.3	79.7
	Master	28	20.3	20.3	100.0
	Total	138	100.0	100.0	

Position

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Manager	49	35.5	35.5	35.5
	Supervisor	23	16.7	16.7	52.2
	employee	66	47.8	47.8	100.0
	Total	138	100.0	100.0	

Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 5 years	34	24.6	24.6	24.6
	5-10 years	39	28.3	28.3	52.9
	11-15 years	44	31.9	31.9	84.8
	above 15 years	21	15.2	15.2	100.0
	Total	138	100.0	100.0	

Factor Analysis

```
/VARIABLES q1 q2 q3 q4 q5
```

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.702
Bartlett's Test of Sphericity	Approx. Chi-Square	93.602
	df	10
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.154	43.088	43.088	2.154	43.088	43.088
2	.948	18.951	62.039			
3	.764	15.278	77.317			
4	.610	12.199	89.515			
5	.524	10.485	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
The company uses AI to perform processes without human intervention.	.577
The company uses AI to reduce administrative workload.	.699
The company uses AI to replace manual tasks.	.674
The company uses AI to substitute repetitive tasks.	.646
The company uses AI to avoid errors automatically.	.678

Extraction Method: Principal Component Analysis.

a. 1 component extracted.

Factor Analysis

```
/VARIABLES a1 a2 a3 a4 a5
```

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.772
Bartlett's Test of Sphericity	Approx. Chi-Square	149.762
	df	10
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.529	50.572	50.572	2.529	50.572	50.572
2	.795	15.894	66.465			
3	.722	14.446	80.912			
4	.515	10.307	91.219			
5	.439	8.781	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
The company uses AI to convert resources efficiently (fewer inputs).	.623
The company uses AI to transform inputs into outputs with high quality.	.794
The company uses AI in a cost-effective manner.	.697
The company uses AI to improve productivity.	.690
The company uses AI to speed working processes.	.741

Extraction Method: Principal Component Analysis.

a. 1 component extracted.

Factor Analysis

```
/VARIABLES b1 b2 b3 b4 b5
```

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.776
Bartlett's Test of Sphericity	Approx. Chi-Square	171.848
	df	10
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.618	52.364	52.364	2.618	52.364	52.364
2	.833	16.664	69.028			
3	.675	13.505	82.533			
4	.475	9.507	92.040			
5	.398	7.960	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
The employee understands AI functions easily.	.744
The employee uses AI systems without much effort.	.838
The employee uses AI to complete tasks with minimal supervision.	.707
The employee uses AI to perform tasks easily.	.682
The employee uses AI to simplify complex tasks.	.631

Extraction Method: Principal Component Analysis.

a. 1 component extracted.

Factor Analysis

```
  /VARIABLES c1 c2 c3 c4 c5
```

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.662
Bartlett's Test of Sphericity	Approx. Chi-Square	113.898
	df	10
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.211	44.221	44.221	2.211	44.221	44.221
2	1.037	20.745	64.965	1.037	20.745	64.965
3	.722	14.447	79.413			
4	.593	11.853	91.266			
5	.437	8.734	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component	
	1	2
The company uses AI to attract potential candidates.	.693	-.335-
The company uses AI to improve the recruiter's response time.	.698	.429
The company uses AI to discover new talents quickly.	.716	-.347-
The company uses AI to filter resumes. (search keywords in resumes)	.692	-.274-
The company uses AI to predict employee success.	.501	.739

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

Factor Analysis

```
/VARIABLES d1 d2 d3 d4 d5
```

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.786
Bartlett's Test of Sphericity	Approx. Chi-Square	192.349
	df	10
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.751	55.015	55.015	2.751	55.015	55.015
2	.749	14.978	69.993			
3	.586	11.727	81.720			
4	.561	11.214	92.934			
5	.353	7.066	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
The company uses AI to evaluate candidates for open vacancies.	.821
The company uses AI to test employees for a specific job.	.731
The company uses AI to reduce human bias.	.751
The company uses AI to match the right individual with the right job.	.705
The company uses AI to schedule interviews.	.694

Extraction Method: Principal Component Analysis.

a. 1 component extracted.

Factor Analysis

```
/VARIABLES e1 e2 e3 e4 e5
```

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.739
Bartlett's Test of Sphericity	Approx. Chi-Square	93.177
	df	10
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.183	43.667	43.667	2.183	43.667	43.667
2	.871	17.429	61.095			
3	.788	15.759	76.855			
4	.613	12.260	89.115			
5	.544	10.885	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
The company uses AI to approve applicants for suitable jobs.	.609
The company uses AI to improve candidate engagement.	.721
The company uses AI to choose candidates based on interpersonal skills.	.561
The company uses AI to reduce hiring time.	.636
The company uses AI to make ethical employment decisions.	.756

Extraction Method: Principal Component Analysis.

a. 1 component extracted.

Factor Analysis

```
/VARIABLES EoU Eff Auto
```

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.603
Bartlett's Test of Sphericity	Approx. Chi-Square	73.635
	df	3
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.833	61.108	61.108	1.833	61.108	61.108
2	.738	24.607	85.715			
3	.429	14.285	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
AI Ease of Use	.699
AI Efficiency	.861
AI Automation	.777

Extraction Method: Principal Component Analysis.

a. 1 component extracted.

Factor Analysis

```
/VARIABLES Rec Sel App
```

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.637
Bartlett's Test of Sphericity	Approx. Chi-Square	120.052
	df	3
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.059	68.649	68.649	2.059	68.649	68.649
2	.617	20.550	89.199			
3	.324	10.801	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
Recruitment	.774
Selection	.813
Appointment	.894

Extraction Method: Principal Component Analysis.

a. 1 component extracted.

```
RELIABILITY
  /VARIABLES=q1 q2 q3 q4 q5
```

Reliability Statistics

Cronbach's Alpha	N of Items
.666	5

```
RELIABILITY
  /VARIABLES=a1 a2 a3 a4 a5
```

Reliability Statistics

Cronbach's Alpha	N of Items
.751	5

```
RELIABILITY
  /VARIABLES=b1 b2 b3 b4 b5
```

Reliability Statistics

Cronbach's Alpha	N of Items
.764	5

```
RELIABILITY
  /VARIABLES=c1 c2 c3 c4 c5
```

Reliability Statistics

Cronbach's Alpha	N of Items
.680	5

```
RELIABILITY
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Reliability Statistics

Cronbach's Alpha	N of Items
.794	5

```
RELIABILITY
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```

Reliability Statistics

Cronbach's Alpha	N of Items
.675	5

```
RELIABILITY
  /VARIABLES=EoU Eff Auto
```

Reliability Statistics

Cronbach's Alpha	N of Items
.679	3

```
RELIABILITY
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```

Reliability Statistics

Cronbach's Alpha	N of Items
.766	3

```
T-TEST
  /TESTVAL=3
  /VARIABLES=q1 q2 q3 q4 q5 a1 a2 a3 a4 a5 b1 b2 b3 b4 b5 c1 c2 c3 c4
c5 d1 d2 d3 d4 d5 e1 e2 e3 e4 e5 EoU Eff Auto AI Rec Sel App Empl
```

T-Test

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
The company uses AI to perform processes without human intervention.	138	3.4928	1.02698	.08742
The company uses AI to reduce administrative workload.	138	3.2754	.90229	.07681
The company uses AI to replace manual tasks.	138	3.5507	1.06073	.09030
The company uses AI to substitute repetitive tasks.	138	3.4058	.96386	.08205
The company uses AI to avoid errors automatically.	138	3.5580	1.05345	.08968
The company uses AI to convert resources efficiently (fewer inputs).	138	3.3986	1.10434	.09401
The company uses AI to transform inputs into outputs with high quality.	138	3.5435	1.03317	.08795
The company uses AI in a cost-effective manner.	138	3.4348	1.12020	.09536
The company uses AI to improve productivity.	138	3.3768	1.16018	.09876
The company uses AI to speed working processes.	138	3.3913	1.06322	.09051

The employee understands AI functions easily.	138	3.5290	1.08198	.09210
The employee uses AI systems without much effort.	138	3.3478	.87672	.07463
The employee uses AI to complete tasks with minimal supervision.	138	3.5725	1.03858	.08841
The employee uses AI to perform tasks easily.	138	3.3333	.99878	.08502
The employee uses AI to simplify complex tasks.	138	3.5870	1.02329	.08711
The company uses AI to attract potential candidates.	138	3.6304	1.05385	.08971
The company uses AI to improve the recruiter's response time.	138	3.3768	1.04778	.08919
The company uses AI to discover new talents quickly.	138	3.3478	1.05783	.09005
The company uses AI to filter resumes. (search keywords in resumes)	138	3.4058	1.07824	.09179
The company uses AI to predict employee success.	138	3.2536	1.03276	.08791
The company uses AI to evaluate candidates for open vacancies.	138	3.4855	.99073	.08434
The company uses AI to test employees for a specific job.	138	3.3623	.97368	.08289
The company uses AI to reduce human bias.	138	3.5362	.99017	.08429
The company uses AI to match the right individual with the right job.	138	3.3333	.97661	.08313
The company uses AI to schedule interviews.	138	3.4420	1.01821	.08668
The company uses AI to approve applicants for suitable jobs.	138	3.4420	.98172	.08357
The company uses AI to improve candidate engagement.	138	3.5000	1.02701	.08742
The company uses AI to choose candidates based on interpersonal skills.	138	3.2536	.96706	.08232
The company uses AI to reduce hiring time.	138	3.3478	.95636	.08141
The company uses AI to make ethical employment decisions.	138	3.4710	1.08198	.09210
AI Ease of Use	138	3.4739	.72134	.06140

AI Efficiency	138	3.4290	.77650	.06610
AI Automation	138	3.4565	.65646	.05588
Artificial Intelligence (AI)	138	3.4531	.56161	.04781
Recruitment	138	3.4029	.69827	.05944
Selection	138	3.4319	.73306	.06240
Appointment	138	3.4029	.66222	.05637
Employment	138	3.4126	.57657	.04908

One-Sample Test

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
The company uses AI to perform processes without human intervention.	5.636	137	.000	.49275	.3199	.6656
The company uses AI to reduce administrative workload.	3.585	137	.000	.27536	.1235	.4272
The company uses AI to replace manual tasks.	6.099	137	.000	.55072	.3722	.7293
The company uses AI to substitute repetitive tasks.	4.946	137	.000	.40580	.2436	.5680
The company uses AI to avoid errors automatically.	6.222	137	.000	.55797	.3806	.7353
The company uses AI to convert resources efficiently (fewer inputs).	4.240	137	.000	.39855	.2127	.5844
The company uses AI to transform inputs into outputs with high quality.	6.179	137	.000	.54348	.3696	.7174
The company uses AI in a cost-effective manner.	4.560	137	.000	.43478	.2462	.6233
The company uses AI to improve productivity.	3.815	137	.000	.37681	.1815	.5721
The company uses AI to speed working processes.	4.323	137	.000	.39130	.2123	.5703

The employee understands AI functions easily.	5.743	137	.000	.52899	.3469	.7111
The employee uses AI systems without much effort.	4.661	137	.000	.34783	.2002	.4954
The employee uses AI to complete tasks with minimal supervision.	6.475	137	.000	.57246	.3976	.7473
The employee uses AI to perform tasks easily.	3.921	137	.000	.33333	.1652	.5015
The employee uses AI to simplify complex tasks.	6.738	137	.000	.58696	.4147	.7592
The company uses AI to attract potential candidates.	7.028	137	.000	.63043	.4530	.8078
The company uses AI to improve recruiter's response time.	4.225	137	.000	.37681	.2004	.5532
The company uses AI to discover new talents quickly.	3.863	137	.000	.34783	.1698	.5259
The company uses AI to filter resumes. (search keywords in resumes)	4.421	137	.000	.40580	.2243	.5873
The company uses AI to predict employee success.	2.885	137	.005	.25362	.0798	.4275
The company uses AI to evaluate candidates for open vacancies.	5.757	137	.000	.48551	.3187	.6523
The company uses AI to test employees for a specific job.	4.371	137	.000	.36232	.1984	.5262
The company uses AI to reduce human bias.	6.362	137	.000	.53623	.3696	.7029
The company uses AI to match the right individual with the right job.	4.010	137	.000	.33333	.1689	.4977
The company uses AI to schedule interviews.	5.100	137	.000	.44203	.2706	.6134

The company uses AI to approve applicants for suitable jobs.	5.289	137	.000	.44203	.2768	.6073
The company uses AI to improve candidate engagement.	5.719	137	.000	.50000	.3271	.6729
The company uses AI to choose candidates based on interpersonal skills.	3.081	137	.002	.25362	.0908	.4164
The company uses AI to reduce hiring time.	4.272	137	.000	.34783	.1868	.5088
The company uses AI to make ethical employment decisions.	5.114	137	.000	.47101	.2889	.6531
AI Ease of Use	7.718	137	.000	.47391	.3525	.5953
AI Efficiency	6.490	137	.000	.42899	.2983	.5597
AI Automation	8.169	137	.000	.45652	.3460	.5670
Artificial Intelligence (AI)	9.478	137	.000	.45314	.3586	.5477
Recruitment	6.778	137	.000	.40290	.2854	.5204
Selection	6.921	137	.000	.43188	.3085	.5553
Appointment	7.147	137	.000	.40290	.2914	.5144
Employment	8.406	137	.000	.41256	.3155	.5096

CORRELATIONS

```
  /VARIABLES=EoU Eff Auto AI Rec Sel App Empl
```

Correlations

		AI Ease of Use	AI Efficiency	AI Automation	Artificial Intelligence (AI)	Recruitment	Selection	Appointment	Employment
AI Ease of Use	Pearson Correlation	1	.433**	.270**	.733**	.334**	.282**	.283**	.363**
	Sig. (2-tailed)		.000	.001	.000	.000	.001	.001	.000
	N	138	138	138	138	138	138	138	138
AI Efficiency	Pearson Correlation	.433**	1	.533**	.854**	.466**	.438**	.450**	.546**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000
	N	138	138	138	138	138	138	138	138
AI Automation	Pearson Correlation	.270**	.533**	1	.751**	.526**	.441**	.431**	.564**

	Sig. (2-tailed)	.001	.000		.000	.000	.000	.000	.000
	N	138	138	138	138	138	138	138	138
Artificial Intelligence (AI)	Pearson Correlation	.733**	.854**	.751**	1	.563**	.494**	.497**	.627**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000
	N	138	138	138	138	138	138	138	138
Recruitment	Pearson Correlation	.334**	.466**	.526**	.563**	1	.387**	.565**	.784**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000
	N	138	138	138	138	138	138	138	138
Selection	Pearson Correlation	.282**	.438**	.441**	.494**	.387**	1	.628**	.820**
	Sig. (2-tailed)	.001	.000	.000	.000	.000		.000	.000
	N	138	138	138	138	138	138	138	138
Appointment	Pearson Correlation	.283**	.450**	.431**	.497**	.565**	.628**	1	.877**
	Sig. (2-tailed)	.001	.000	.000	.000	.000	.000		.000
	N	138	138	138	138	138	138	138	138
Employment	Pearson Correlation	.363**	.546**	.564**	.627**	.784**	.820**	.877**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	
	N	138	138	138	138	138	138	138	138

**. Correlation is significant at the 0.01 level (2-tailed).

```
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA COLLIN TOL
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT Empl
  /METHOD=ENTER EoU Eff Auto
  /SCATTERPLOT=(Empl ,*ZPRED)
  /RESIDUALS DURBIN HISTOGRAM(ZRESID) NORMPROB(ZRESID).
```

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.646[a]	.418	.405	.44484	1.756

a. Predictors: (Constant), AI Automation, AI Ease of Use, AI Efficiency

b. Dependent Variable: Employment

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.027	3	6.342	32.051	.000[b]
	Residual	26.516	134	.198		
	Total	45.543	137			

a. Dependent Variable: Employment

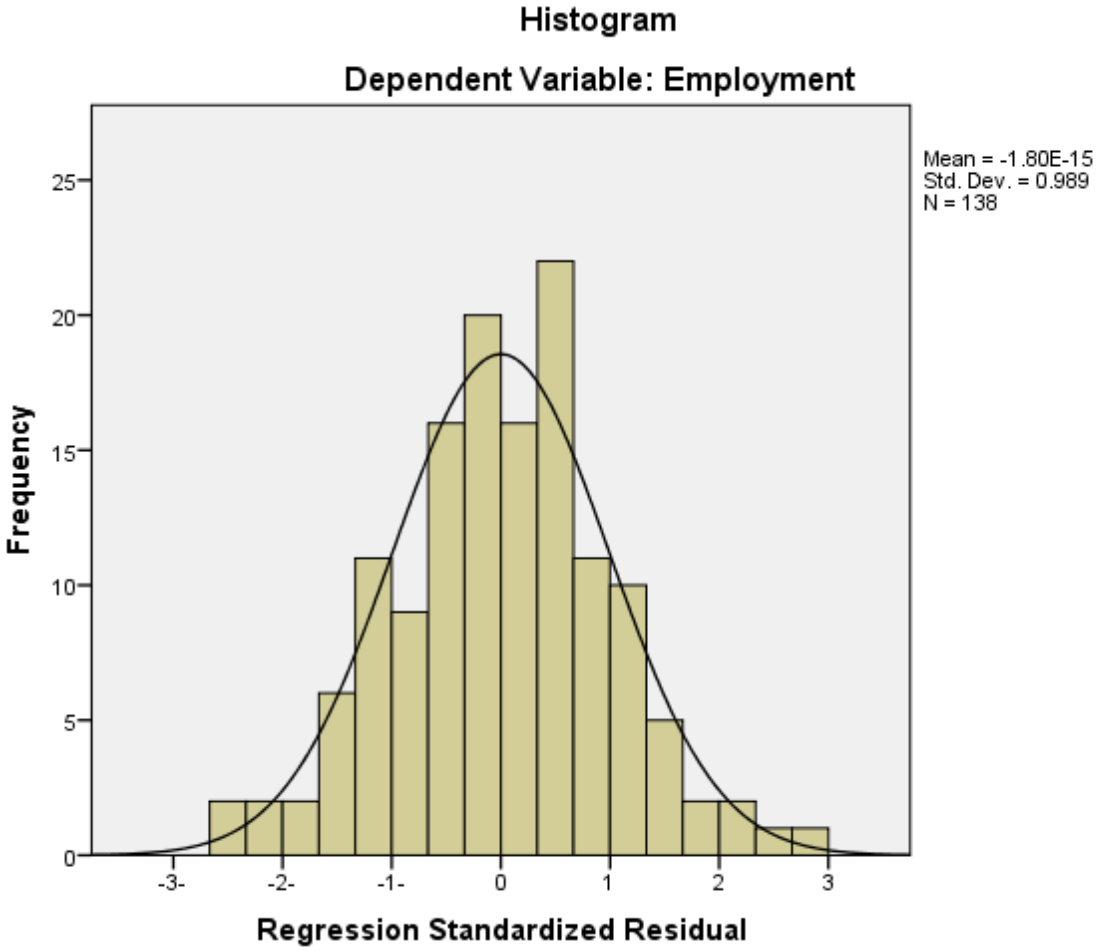
b. Predictors: (Constant), AI Automation, AI Ease of Use, AI Efficiency

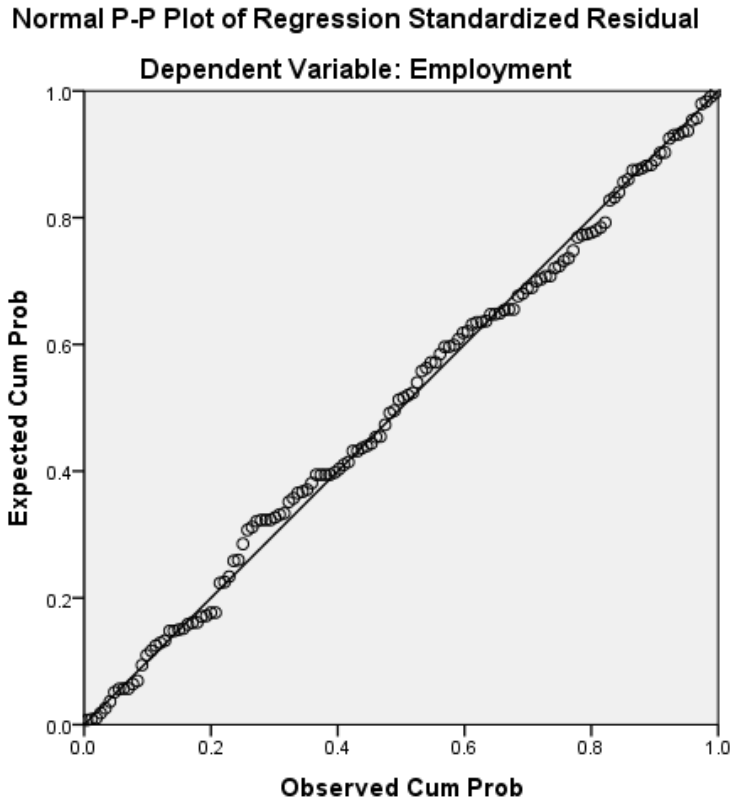
Coefficients[a]

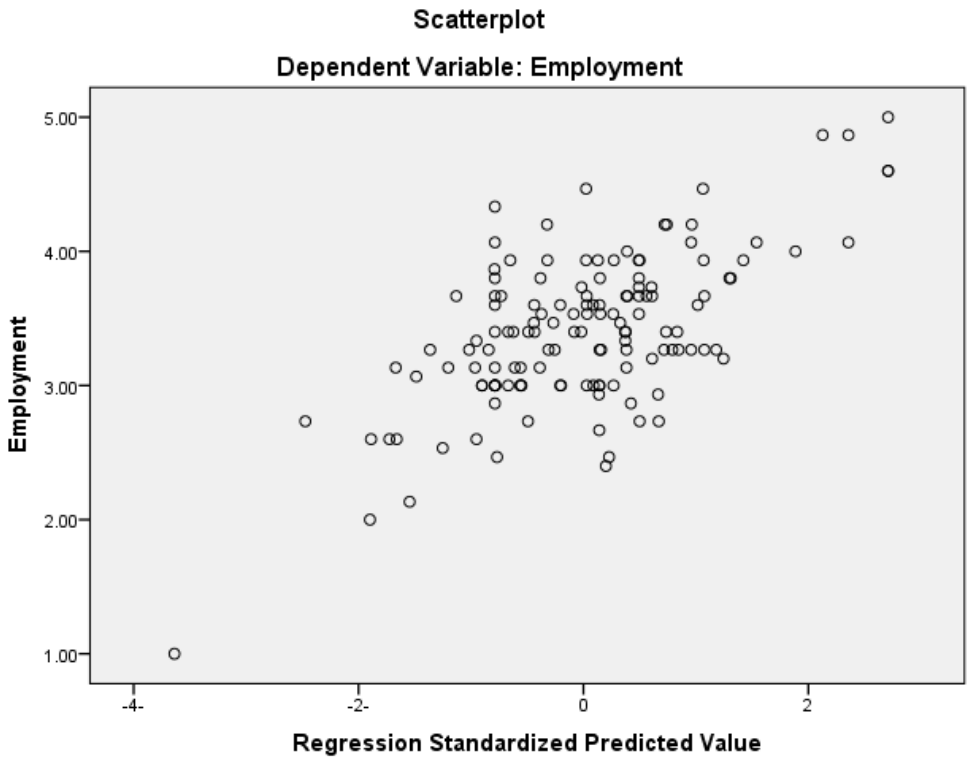
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.164	.245		4.748	.000		
	AI Ease of Use	.110	.059	.137	1.871	.063	.810	1.235
	AI Efficiency	.213	.062	.287	3.447	.001	.626	1.599
	AI Automation	.329	.069	.374	4.798	.000	.714	1.400

a. Dependent Variable: Employment

Charts


Histogram
Dependent Variable: Employment
Mean = -1.80E-15
Std. Dev. = 0.989
N = 138
Frequency
25
20
15
10
5
0
-3-
-2-
-1-
0
1
2
3
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Employment
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: Employment
Employment
Regression Standardized Predicted Value
5.00
4.00
3.00
2.00
1.00
-4-
-2-
0
2