Uses of Artificial Intelligence Applications in Saudi Public and Private Institutions: A Field Study on Public Relations Practitioners

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Abstract

The rapid development of artificial intelligence (AI) technology has attracted global attention because of its great impact on every corner of the world. In addition, its impact is noticeable as a simple alternative to human labor and its gradual impact on people's daily lives. It is expected that the human element will be eliminated, and most jobs will be handled by robots in the next twenty years. The importance of the study is evident in the following:

– The importance of the study lies in its handling of AI applications as one of the most important technological concepts that have gained popularity in recent years.

– The importance of the category to which the study is applied. Considering the controversy around the world about AI applications and the difference of opinions between the hope for a better future and the apprehension of its dangers, it was important to identify the trends and opinions of public relations (PR) practitioners, especially in the field of digital public relations (DPR).

– The study reached a set of results, including: the degree of the practice of AI applications in DPR, where "highly practiced" ranked first.

Keywords: public relations practitioners, digital, organizations, applications, artificial intelligence.

The past decade witnessed technological developments that led to a major transformation in the marketing process. As a result, the concept of marketing communications developed with the development of the marketing landscape. The concept of integrated marketing communications arose as a result of the quantitative measurement of communication and marketing that appeared at the beginning of the eighties, which resulted from the development and use of computers, and tools for collecting and storing data, as well as the development of data analysis and processing methods, all of which are products of the digital revolution (Eltalawy, Noha Hussein Mohamed Mahmoud (2021), pp. 71- 133). The rapid development of AI technology has attracted global attention because of its great impact on every corner of the world. In addition, its impact has become noticeable as a simple alternative to human work and its gradual impact on people's daily lives. It is expected that the human element will be eliminated, and most jobs will be handled

by robots in the next twenty years. Therefore, PR practitioners are one of the groups that will be affected by AI (Liew, Fifi Ee En 2021, pp. 24-28). The importance of managing the organization is not hidden from those working in the fields of corporate communication, public relations departments, and marketing and advertising companies, as the success of all of these institutions depend on their success in terms of management, as good management of the organization ensures the optimal exploitation of material and human resources, allowing the provision of continuous and sometimes renewable sources of funding for the organization to ensure its continuity. At the same time, this achieves the satisfaction of the target audiences by providing access to the service with the required quality through planning, organization control, and a good evaluation of media work in its various creative and artistic aspects.

(https://alkhabaralyoum.com/index.php/more/tech/49455)

Although PR practitioners have relied on modern technologies for many years to increase the efficiency and effectiveness of their work, technology has not been able to replace the knowledge that experts possess when making and taking decisions, which is what the majority of organizations need. (IT Faculty ,2018, P. 9)

Moreover, the rapid development of AI technology has attracted global attention because of its huge impact on every corner of the world. In addition, its impact has become noticeable as a simple alternative to human labor and its gradual impact on people's daily lives. It is expected that the human element will be eliminated, and most jobs will be handled by robots in the next twenty years. Therefore, PR practitioners are one of the groups that will be affected by AI, as the accelerating pace of globalization, shifting customer demands, rapid technological development, and the resulting fierce competition make the ability to respond to market opportunities a critical success factor for companies operating in contemporary business

environments. (Al-Khalifa, Asmaa Mustafa Helmy (2021), pp. 3- 20)

Some people believe that AI is limited to handling data through inputs, which it reprocesses, and then gives solutions or performs certain actions according to specific mechanisms. However, AI is no longer just a player in many fields, it is competing with human capabilities in the most specialized human fields, of which PR may be considered the most important because it does not depend on a specific and narrow work approach, such as technical fields. Rather, it is subject to many infinite variables that require long-term experience in the market, just like trading, stock market speculation, acting, and even coaching football teams.(https://www.alkhaleej.ae/)

Literature Review:

It is divided into two axes:

The first axis: studies dealing with Artificial Intelligence (AI).

The second axis: studies dealing with Digital Public Relations (DPR).

The first axis: studies dealing with Artificial Intelligence (AI).

Al-Khalifa, Asmaa Mustafa Helmy (2021), Artificial Intelligence for Information Retrieval: An Exploratory Study to Talk to Books App. (Rackgun Hwang, Minkyung Lee, 2022, PP.141-155)

The study dealt with "Talk to Books" application as one of the AI applications produced by Google. It first reviewed the definition of Talk to Books (T.T.B) application, its nature, and its most important distinguishing characteristics. The search and retrieval mechanism with the T.T.B tool was also studied by reviewing the basic elements that the application relies on to improve its search and retrieval mechanism, which are Input Data, Prediction, and Model. Then it discusses machine learning technology (ML) and its relationship with artificial intelligence (AI) and natural language (NL) in the T.T.B tool, and the use of AI in retrieving information. Then, the

study explained the importance of the Semantic Web in retrieving information with the Talk to Books tool, as it is a new approach to research. Using semantics in addition to syntax, then AI, which basically aims to teach the machine natural language (NL), which is the human language, through simulation and its importance in retrieving information. In the end, projects or mechanisms like T.T.B, such as TensorFlow and the hummingbird algorithm, were reviewed, relying on the descriptive approach as a general framework through using the documentary research method to collect theoretical aspects on the topic. One of the most important results of the study is that Talk to Books is a retrieval tool developed by using billions of pairs of phrases through input data and then predicting the required answer to the inquiry sentences through a trained model that is used to enter those pairs of phrases to make predictions, and thus the model becomes able to choose the most likely response from a set of options. It is more of a creative tool than a way to find specific answers. One of the most important recommendations is the necessity of working to increase the number of books on which the Talk to Books application depends, which is 100,000 books, by adding AI technology to them to expand its database.

Shabaan, Amany Abdel Kader Mohamed (2021), Artificial Intelligence and its Applications in Higher Education. (Rackgun Hwang, Minkyung Lee, 2022, PP.141-155).

The world is witnessing tremendous developments in the field of information and communications technology, and among the future technologies that attract the attention of educators are AI technologies and their applications, as AI is a simulation of human intelligence by machines, especially computer systems, and many applications are widely used by teachers and students today.

The study aimed to employ AI applications in higher education, by reviewing the concept of AI, its characteristics, reasons for interest in it, the positive effects of AI on education, AI applications in higher education, and the most

important challenges facing AI applications in education. The study was based on the descriptive approach in collecting and analyzing everything related to AI, and the study concluded that many AI applications can be used in higher education.

Abdul Qader, Abdul Razzaq Mukhtar Mahmoud (2020), Artificial intelligence Applications: An Introduction to Education Development in the light of Corona Virus Pandemic (COVID-19) Challenges, pp. 171-224.

The current study aimed to identify AI applications that can be used to develop the educational process in light of the challenges of the Coronavirus (COVID-19) pandemic. The study adopted the descriptive approach by extrapolating and analyzing studies, research, books, and periodicals related to this subject. For the purposes of the study, an open questionnaire was designed to identify the most important problems and challenges faced by the educational process and the role of AI applications in facing those challenges. It was presented to some officials in university and pre-university education, totalling 31. The study concluded that there are several challenges and problems related to the following aspects: (the educational process, the educational administration, the teacher, the learner, the parents, and the assessment of learners) in light of the Corona crisis, including: limited readiness of teachers, lack of digital infrastructure in the educational environment, weak interest in training teachers and learners to use modern technologies, and relying entirely on paper books in the educational process. The study also found that it is possible by employing some AI applications in the educational process, such as smart education systems, smart content, and virtual reality (VR) and augmented reality (AR) technology, "Layer" applications, Aurasma, Augmented 4 applications, and others, to face some of these challenges and problems. The study presented several recommendations based on its findings, the most important of which is the necessity of adopting some AI applications in

educational institutions, spreading technological culture, increasing the awareness of educational institutions and society about the positive effects of AI, and other recommendations.

Marai, Hesham Ahmed Ahmed, (2020), Applications of Artificial Intelligence in Photography, pp. 75-86.

As AI helps us do things faster and better, in many fields, this also applies to the field of photography. Many professional digital camera functions, such as automatic exposure and clarity adjustment functions, have become dependent on AI. Smartphones have become equipped with cameras that operate with AI technology, and thus the camera user has more time allocated to creative aspects, instead of wasting time solving recurring problems. AI has also influenced the development of advanced algorithms that are gradually replacing the traditional ways in which digital photographs are processed. This allows the immediate processing of images, correcting their defects, and improving them automatically in a way that does not require any effort, to achieve amazing results, which would have required the photographer to spend long hours working on traditional software. The matter has come to obtaining a photograph without a photographer, as is the case with the smart camera Google Clips, as well as obtaining a photograph without a photographer or camera, as is the case with images generated by AI algorithms such as StyleGan. The problem with the research is that lack of familiarity with the multiple capabilities of AI and trying to employ them effectively in all stages of photographic image production will lead to consume a lot of time and effort in solving traditional problems that AI can accomplish quickly, easily, and efficiently, such as automatic adjustment of exposure and clarity, improving the image, correcting its defects, and adding effects to it, with the least amount of time and effort. Therefore, the research aimed to identify the enormous potential offered by AI applications in photography, the extent of their rapid development, and how to maximize their use to

obtain better photographs with less time and effort, whether in the photography stage, or in the stage of processing and improving images and fixing their defects, as well as in generating and creating photographs of subjects that do not exist in reality.

Bakr, Abdel-Gawad El-Sayed (2019), Artificial Intelligence: Its Policies, Programs and Applications in Higher Education: An International Perspective, pp. 383- 432.

The current study focuses on one of the most valuable advanced technological applications in the second machine age, that is, the application of artificial intelligence in programs within universities, research centres, and higher education in general, in a frequent and rapid manner, and the fast spread of concepts and applications related to AI. AI is defined as the ability and work to develop technological information systems that rely on computers and other tools that complement the tasks they perform, which usually require human intelligence and the ability to reach logical conclusions. The research aims to monitor the policies, programs, and AI applications in higher education from an international perspective, using methodological mechanisms in description, analysis, and interpretation by addressing the history and development of AI in a simplified and descriptive manner; the term, its synonyms and uses in contemporary science; life skills and resulting risks; and AI applications, policies, strategies, and futures. Among the most important of these applications are expert systems, speech recognition – programs that can convert sounds into words (text), natural language processing, and robotics – an electromechanical machine that receives commands from a computer, follows them and performs certain tasks.

The second axis: studies dealing with Digital Public Relations (DPR).

Al-Salihi, Hatem Ali Haider Muqbil (2021), Digital Public Relations: A Theoretical Review of the Concept, Emergence Factors and Challenges, pp. 47-75.

This study aimed to monitor the concept of digital public relations (DPR) in scientific studies and literature, explore the factors that led to its emergence, and highlight the differences between DPR and traditional public relations from multiple aspects, while presenting the most important challenges facing DPR in practice. The study relied on the descriptive approach and concluded that DPR means practicing public relations through modern digital means and systems, according to planned and intended efforts and activities, and differs from traditional public relations in the nature of the communication means used, the form of communication (linear/one-way - interactive/dialogical), and the ability to manage relationships. Public control over published media content, audience participation, and speed in measuring the impact of communication messages. The results presented several factors that led to the emergence of DPR, most notably: the changing nature of the public sphere, competition between business organizations, and the rise in the population of the virtual space with the spread of digital means. The study concluded that there are a group of challenges facing PR practitioners in the use of public and digital relations and employing them to achieve the organization's goals.

Abd-Elmoaty, Rizk Saad (2018), Approaches to Study Digital Public Relations at Al-Azhar University, pp. 9- 47.

In light of the great information revolution created by the international communications network, PR practitioners have been keen to keep pace with the tremendous developments in modern communications technology, while participating in a large part of it and making a long-term leap forward. Therefore, the website of every organization or company has become a channel for communication and interaction with the public, and even represents that organization in a way that enables it to gain trust, thus allowing the organization to take proactive steps toward achieving the strategic goals it aspires to, and even enhance its position among other organizations. These new technological developments place a great responsibility on PR practitioners, as they are forced to use them as sources of reliable information and protection of society's interests and concerns. New media technology has led to greater freedom for media that can no longer be restricted and has provided an easy way to communicate and spread information throughout the world. So, the question now is whether PR practitioners will benefit from these new technological options, or will they shy away from using them due to fear of the so-called new media technology? Accordingly, the question that must be answered is: to what extent will Egyptian universities continue to keep pace with this development and include it in their academic programs related to public relations, scientific studies and research? This is the focus of this research.

Fanur, Basmah (2022), Public Relations between Traditional and Digital Practices: A Reading of Conceptual Transformations, pp. 191- 221.

Public relations arose in a distinct political, economic, media and social environment, the various factors and components of which interacted in a specific manner, making it an urgent necessity to address the new problems that emerged in that environment. Since public relations - as a practice and as a science - is based on a tripartite relationship between the political system, the economic system, and the media system, we must carefully examine the nature of the components of that environment that gave birth to it and their specificities, in order to understand the circumstances that greatly contributed to the discrepancy in its emergence and spread in various countries of the world, the variation in the practice and understanding of public relations, the clarity of its concept, and the variation in the direction that its development has taken from one region to another and from one country to another, especially with the tremendous development that has affected communication technology, the openness of the world to each other, and the rapid transfer of

information through this technology. This is what we will investigate in this scientific paper.

Morsi, Iman (2021), The Role of Digital Public Relations in Saudi Universities During the Corona Crisis: A Field Study on Public Relations Practitioners, pp. 337-371

The current study sought to identify the role of DPR in enhancing communication and communication in Saudi universities during the new Corona epidemic crisis, and to determine the extent to which specialists and directors of public relations departments in Saudi universities, the study sample, used modern technology during the Corona crisis, and the most important electronic means used by the public relations department, and communication strategies within public relations departments in universities. The study relied on the survey method using the sample survey method by applying it to a sample of PR practitioners in Saudi universities. The study sample (King Abdul Aziz - Umm Al-Qura - Taif) consisted of (66 respondents) during the period from 9/1/2020 to 12/1/2020. The results of the study showed that e-mails and university accounts on social media came in first place with a rate of 25.33% as the most important electronic means used by the public relations department in dealing with the Corona crisis. They also revealed that 54% of the directors and specialists of public relations departments in Saudi universities, the study sample, received training on communication technology during the Corona epidemic. They also confirmed the importance of DPR tools for university public relations managers and specialists, as public relations tools were useful in exchanging opinions and instructions at the university or college by 19.6% and improving the communication environment between different departments at the university by 18.2%. They also showed that the media strategy provides public relations with all the decisions and precautionary measures taken by the university to deal with the Corona epidemic crisis and presents the most important

communication strategies for DPR in universities at a rate of 41.3%.

General comment on previous studies

Previous studies have concluded the importance of AI in work, education, DPR, and the development of media work. Therefore, it is important to study it to identify the advantages and disadvantages of this tremendous technological development.

Studies have found that there is a correlation between the use of AI applications among DPR practitioners and their employment in Saudi government and private Institutions. Hence, there is a need to study this as, according to researchers and analysts, the new development in public relations.

The lack of studies that dealt with AI at the world level, and the scarcity of Arab studies that dealt with AI and DPR.

The absence of an Arab study that addressed the importance of AI and DPR for users, according to the research conducted by the study researcher.

Benefits of previous studies:

The study benefited from reviewing previous studies in formulating the research problem and determining the methodological framework in terms of the study, the methods used, and the formulation of hypotheses and tools.

Previous studies helped explain the results of the current study.

The study benefited from the methodological aspects followed, defining the research objectives and the questions associated with them, in addition to defining the categories of analysis.

Statement of the Problem:

In light of what the results of previous studies indicated, public relations is witnessing a race toward digital transformation, and is now forced to keep pace with the developments of the Fourth Industrial Revolution (4IR), represented by the "four semantic factors", which are automation, shortening time, convergence in the physical and digital presences, and connectivity everywhere, and harnessing the potential of AI in performing

its functions, to benefit from its capabilities and simplify its operations, which in turn will lead to make informed choices, develop appropriate strategies and enhance the value of the organization (Kurzweil, Ray, 2006, p. 260).

Based on what some previous studies recommended about the necessity of PR practitioners adopting AI applications, the problem of the study is determined by the quantitative monitoring and qualitative interpretation of the perceptions and attitudes of PR practitioners toward employing AI applications in determining the levels of intelligence used, the most prominent challenges facing them, and their proposals to solve them, in addition to the features of employing these applications in the future. The problem of the study is limited to the following main question: What are the uses of AI applications among DPR practitioners and their employment in Saudi government and private institutions?

Limitations of the Study:

First: Objective limitations: AI applications among DPR practitioners and their employment in Saudi government institutions.

Second: Time limitations: The results of this study apply to the time period in which the study will be conducted, and the use and employment of AI applications by DPR practitioners in Saudi government institutions will be tested by distributing a questionnaire form during the time period of May and June of 2023 after completing the preparation of the theoretical framework of the study.

Third: Spatial limitations: The study was limited to a representative sample of DPR practitioners through the distribution of electronic questionnaires.

Study Variables:

- Independent variable: The use of AI applications among DPR practitioners.

- Mediating variables: Social level, economic level, gender (male - female), study (theoretical - practical).

- The dependent variable and its employment in Saudi government institutions.

Importance of the Study:

The importance of public relations has increased in the current era. Communication has become an urgent necessity in the field of social relations. Perhaps one of the most prominent and recent changes is AI applications and their importance in customer relationship management.

The importance of the study lies in its treatment of AI applications as one of the most important technological concepts that have gained popularity in recent years.

There is no Arab study addressing the importance of AI applications for users, according to the research conducted by the study's researchers.

The study confirmed the importance of the category to which it is being conducted. Considering the controversy surrounding AI applications around the world and the differences in opinions between hope for a better future and fear of its dangers, it was important to know the trends and opinions of PR practitioners, especially in the field of DPR.

This study is considered a starting point for further future studies regarding its subject. Also, it represents an addition to research on the rapid technological development in public relations.

Objectives of the Study:

The main objective of the study is the use of AI applications among DPR practitioners and employing them in Saudi government and private institutions, as well as a group of sub-objectives that branch out from it:

Identify the most prominent challenges facing PR practitioners in their use of AI applications.

Identifying the attitudes of practitioners toward the features of the proposed future scenarios by identifying the reasons that suggest the possibility of implementing each scenario and the future of practitioners within the framework of anticipating each scenario in addition to the consequences resulting from each possibility and the applications likely to be used in the integration as well as the benefits.

Identify the expected benefits of integrating AI applications into corporate public relations activities from the practitioners' perspective.

Identify research trends for the future of the public relations industry in light of AI.

Monitoring research trends for future studies of public relations since the emergence of Web 3.0 technology.

Study Questions:

What are the most prominent challenges facing PR practitioners in their use of AI applications?

What are the practitioners' attitudes toward the features of the proposed future scenarios by identifying the reasons that suggest the possibility of implementing each scenario and the future of the practitioners within the framework of anticipating each scenario in addition to the consequences resulting from each possibility and the applications likely to be used in the integration as well as the benefits?

What are the expected benefits of integrating AI applications into corporate public relations activities from the perspective of practitioners?

What are the research trends for the future of the public relations industry in light of AI?

What are the research trends for studies of the future of public relations since the emergence of web3.0 technology?

Study Hypotheses:

There is a statistically significant correlation between the degree of your practice of AI applications in DPR and the importance of employing AI applications in the practice of DPR.

There are statistically significant differences in the degree of practice of AI applications in DPR depending on the type of institution.

There is a statistically significant correlation between the extent of readiness of Saudi government and private institutions to employ AI applications in DPR and the extent of

the possible reasons that could prompt Saudi government and private institutions to employ AI applications in DPR.

There is a statistically significant correlation between the degree of your practice of AI applications in DPR and the expected benefits from employing AI applications in DPR.

There is a statistically significant correlation between the obstacles and challenges that suggest the possibility of not employing AI applications in DPR and the features of the future of employing AI applications.

Methodological procedures

Study Type:

This study belongs to descriptive research, which aims to determine the characteristics of a particular phenomenon or situation that is characterized by specificity. It relies on collecting, analyzing, and interpreting facts to extract their significance. Through this, the study reaches generalizations regarding the situation or phenomenon that the researcher is studying. Accordingly, this study seeks to describe and analyze the use of AI applications among DPR practitioners and their employment in Saudi government and private institutions.

Research Methodology:

In this context, the study relied on the "Survey Method" as an organized scientific effort to obtain data, information, and descriptions about the phenomenon or group of phenomena that is the subject of the research (Samir Muhammad Hussein (1995), p. 133). It is one of the most prominent methods used in the field of media studies, because it does not rely on one method in the data collection process; but it uses various methods, such as surveys, in-depth interviews, structured observation, and other methods of collecting data and information (Atef Adly Al-Abd (1993), p. 40). The "Survey Method" is a standard model for the steps of collecting data from human vocabulary specifically to achieve purposes related to the totality of this vocabulary or some of this total by dealing with the total population or selected

samples from it (Mohamed Abdel Hamid, 2000, p. 158). Therefore, the study uses a survey approach with a sample including DPR practitioners, experts, and users.

The study tools:

After referring to the objectives and hypotheses of the study, two electronic questionnaires were designed for a sample including DPR practitioners, experts, and users.

Study population:

The study population represents users of the various applications of AI, namely academics as well as DPR practitioners in Saudi government and private institutions.

Justifications for the Study Sample:

Scientific research is usually conducted on samples representative of the population on which the research is conducted, because it is impossible to conduct it on the entire population in most cases. Samples, if properly drawn, provide results that are close in their level of accuracy to the results we obtain if the research is conducted on the overall population (Rasim Mohamed Al-Gamaal (1995), p. 135).

Therefore, the sample is a group of units subject to an analytical study that must be a true representation of the original population, and its results can be generalized to it (Samir Muhammad Hussein (1995), p. 133).

The answers were quantitatively analyzed, and a group of objective scientific results were produced. At the end of the study, the researcher came up with a set of scientific recommendations. According to the nature of this study that we are conducting in terms of the subject, method, and research community, a deliberate sample including 100 of DPR practitioners in Saudi government and private institutions will be selected, due to the lack of detailed data on the users of AI applications among DPR practitioners in Saudi government and private institutions.

Validity and reliability tests:

First: Validity test.

A validity test was conducted, where the researcher presented the questionnaires to a group of arbitrators, and questions were reviewed to ensure the honesty of the respondent. Forms whose answers contained a contradiction indicating the lack of seriousness of the respondent were excluded, and the questions that reflected the objectives and questions of the research were relied upon through the survey questions directed to the study sample, the questionnaires were modified based on the observations they made, and the researchers conducted an exploratory study on the study sample, as a means of verifying the time that the respondent would take in answering the questions of the field questionnaire. Many of the questions were reformulated, and some ambiguous questions were deleted, which shows the researcher is unable to understand or answer the questions.

Second: Reliability test.

An exploratory study was conducted using a retest method on a sample of 10 individuals, representing 10% of the sample, and they were retested again, and by comparing the answers of each respondent in the first and second times after a period of time of three weeks, and calculating the general average of consistency rates, it was found that this form has a stability level of 89.7%, which is a percentage that indicates the stability of the form and its applicability. After that, the form was prepared in its final form.

Reliability testing is one of the mechanisms that helps the researcher verify the validity of the results he has reached. The concept of reliability indicates that if the research tool is repeated on the same unit of analysis, this in turn will not affect the nature of the results, regardless of the researcher who applies those results.

The researcher conducted a reliability test through the "Holsti" equation, and according to this equation (reliability was conducted with the researcher Mustafa Muhammad Mahmoud (researcher and journalist)).

Reliability Variable= $2N/(N1+N2)$

Where N= The number of cases in which the two coders agree

N1 = the number of cases that the researcher coded

N2 = the number of cases provided by the assistant researcher

By applying the previous equation, the reliability coefficient in this study reached (89.7), which is a high value that indicates the validity of the scale to a large extent.

Statistical methods for analyzing data:

In the statistical analysis processes, the researcher relied on the SPSS version 15 program, where the data was entered on the computer, and the statistical processing of this data was carried out through the application of many statistical parameters. The variables are diversified between nominal, ordinal, and scale variables.

First: Descriptive standards include:

Frequency tables and distributions: The researchers presented some variables in tables aimed at revealing frequencies and proportions only. This was done in the study sample and its characteristics.

Weighted Average: It is used to measure the weight of ordinal and weighted variables, in order to identify the ordinal or weighted value of each variable by calculating the average of the ordinal and weighted values.

Standard deviation: To show the extent of homogeneity of the respondents' responses according to their questions, and it is used in other advanced statistical measures such as the Critical Ratio and the significance of the differences by calculating the standard error.

Relative importance is calculated through relative weight, which is the reciprocal of the scale, by giving first place the highest weight, where relative importance = frequency × weight.

Second: statistical tests

• Nominal variables:

- Chi-square test: To measure the significance of differences between categories of foreign radio broadcast websites, it is used with nominal, ordinal, or quantitative data and is used

for all levels of equal and relative classification and ordinal scales.

- Compatibility coefficient: It only determines the strength of the relationship and cannot determine the type of relationship, and this is logical because the horizontal and vertical divisions are assumed to be unarrangeable and therefore there is no direction to the relationship.

- Phi coefficient: measures the amount of correlation between two nominal variables. It can be used with ordinal data.

• Ordinal variables:

- U (Mann-whoteny) test: The Mann-whoteny test is considered one of the simplest quantitative parametric methods that compares two sets of sampling data to determine whether these two groups are drawn from two different populations and have the same arithmetic mean, or are drawn from one population, and thus it is considered an alternative test to the Student's T-test.

• Scale variables:

- Pearson coefficient: It measures the correlation coefficient between two variables that tend to change together, and the coefficient describes both the strength and direction of the relationship.

Aggregate metrics

The extent of the likelihood of the reasons that prompt Saudi government and private institutions to employ AI applications in DPR: With the aim of investigating the trends of DPR practitioners by applying a scale consisting of 4 items on the trends of DPR practitioners on a sample of 100 practitioners, the scores were estimated on the scale based on apparently equal categories and Likert style, and the scale was made as follows:

Low 4-6, Medium 7-9, High 10-12.

The expected benefits of employing AI applications in DPR: With the aim of investigating the attitudes of DPR practitioners by applying a scale consisting of 4 items on the attitudes of DPR practitioners on a sample of 100 practitioners, the scores on the scale were estimated using the apparently equal categories

method and the Likert scale, and the scale was made as follows:

Low 1-3, Medium 4-6, High 7-9.

Obstacles and challenges that make it unlikely to employ AI applications: With the aim of investigating the attitudes of DPR practitioners by applying a scale consisting of 4 items on the attitudes of DPR practitioners on a sample of 100 practitioners, the scores on the scale were estimated using the apparently equal categories method and the Likert method, and the scale was made as follows:

Low 1-3, Medium 4-6, High 7-9.

Features of the future of employing AI applications: With the aim of investigating the trends of DPR practitioners by applying a scale consisting of 4 items on the trends of DPR practitioners on a sample of 100 practitioners, the scores on the scale were estimated using the apparently equal categories method and the Likert style, and the scale was made as follows:

Low 5-7, Medium 8-10, High 11-13.

Concepts of the study:

Practitioners: They mean all those working in marketing departments and units in Saudi government and private institutions, whether they are marketing managers or practitioners. The study population included practitioners and was not limited to marketing managers due to the importance of the opinions of marketing practitioners on the subject, especially since in many companies they are more knowledgeable than marketing managers themselves whose work is sometimes limited to the financial and administrative aspects.

Digital Public Relations (DPR): Multiple labels and definitions of the concept of DPR have appeared recently, including, for example, a simplified definition that aims to describe DPR as "employing modern communication technologies to implement some public relations activities to contribute to achieving its goals."

The concept of the development of public relations has been linked to the development of Internet services because the dynamism in which

the Internet operates requires the public relations practitioner to take the initiative, because dealing with performance requires immediate action that cannot tolerate any postponement, as organizations need PR practitioners who have an understanding and are fully aware of the public relations, procedures, products, and services available to the public, they will need those in charge of public relations to do their best in handling information and managing knowledge.

Cognitive Framework

Artificial Intelligence (AI): Valin (2018, p. 89) refers to AI as a software or computer program equipped with a learning mechanism. With this knowledge, it is used to develop solutions and make decisions in new situations just as humans do. It has the ability as a machine to use algorithms to learn from data and use what it has learned to make decisions like humans do. It is a system that can think like humans and act rationally like humans (Valin, J. 2018, p.56).

Krönke (2019) also defined it as "the ability of machines to perform tasks that, if performed by humans, would be said to require 'intelligence', in contrast to tasks that can be performed 'mechanically'" (Krönke C. 2019, p. 89).

The concept of the term AI (Frank, et al. 2019) includes simulating the cognitive functions of humans, self-education, searching for intelligent solutions, comparing the results of the intellectual activity of AI and humans (Frank, M. R., Autor, 2019, pp. 6531-6539.)

The theoretical framework of the research:

Virtual Reality (VR):

The concept of virtual society goes back to Howard Rheingold, who wrote a book entitled Virtual Community, where he defined virtual society as social gatherings formed by individuals dispersed around the world, who converge and communicate with each other via computer screens and e-mail, (Refaat, Mohamed Mustafa (2018), pp. 18-19).

Virtual reality is a common term for an interactive computer-mediated experience, where a person observes an artificial environment (simulating the real environment), and interacts with the virtual objects of this environment as if they were real, so many people can see each other and interact with each other, using the screen installed in the head, computer screen or large display screen, and head and hand tracking devices through which the user can see, move in, and change the virtual environment (Darrell Freeman, 2022, p. 7).

Virtual World Sites:

Through these sites, it is possible to create what is called the user's avatar and activate it across a world with many different characters that may or may not reflect the personalities of their real creators in a virtual world. It is also possible to communicate and speak by voice with any of these characters, in addition to buying and selling property on these worlds and playing some virtual games. Such sites include Active Worlds, Second Life, and World of Warcraft. (Refaat, Mohamed Mustafa (2018), pp. 18-19).

Types of Virtual Reality Systems:

Immersive Virtual Reality System:

In which the user is completely exposed to immersion or immersion in a three-dimensional environment generated by the computer through software Bassiouni, Abdul Hamid 2015, p. 10).

Window on the World:

It is a typical virtual world developed on a desktop computer, and its most common form is computer games that use 3D simulation.

Video Mapping:

This reality is where human movements are mapped using electronic devices such as cameras to produce two-dimensional drawn images that highlight their interests.

Telepresence:

It means using some remote sensors to map a human's actions and link them to the activities he performs in the virtual world.

Mixed reality:

It is creating a new reality by merging the real environment with the virtual environment (Darrell Freeman, 2022, p. 10l).

AI Job Replacement Theory

The study depends, in constructing its variables and interpreting its results, on the AI Job Replacement Theory.

In 2018, Huang and Rust developed a theory called "AI Job Replacement Theory," which divides AI into four levels to measure the extent to which AI will replace human labor. The four levels of intelligence are: mechanical intelligence, analytical intelligence, intuitive intelligence, and emotional intelligence.

This theory contains three basic principles:

First, based on the development of human intelligence and AI, four ordinal and parallel types of mechanical, analytical, intuitive, and empathic intelligences have been identified, listed in the order of difficulty mastered by AI. It then addresses how companies should decide between humans and machines in service delivery across the four intelligences.

Second, AI job replacement occurs primarily at the task level rather than the job level. AI also replaces at least some human labour in some services. When AI can do some job tasks better to meet the company's strategic goal, then AI advances to replace human service workers when it has the ability to handle all job duties.

Third, this substitution of "lower" tasks (easier for AI) occurs first, starting with mechanical tasks, and then moving to higher AI tasks. Ultimately, AI will be able to perform intuitive and emotional tasks. By identifying different AI service replacement mechanisms, we conclude that innovative ways of service delivery are emerging and inevitable, and the scale of job replacement may be more important than many people realize.

Applying Theory to Public Relations Practice:

The AI Job Replacement Theory developed by Huang and Rust (2018) on public relations practice can be measured through the four levels of AI as follows (Lynch, Chris (2018, p.76):

Mechanical intelligence requires limited training or education, and public relations tasks that can belong to this type of intelligence are distributing press releases, making media lists, and transcribing audio and video and converting them to text.

As for analytical intelligence, it requires training and experience in data and analysis, and this information is obtained from practice and experience. AI applications at this level are machine learning and data analysis, and public relations tasks that can belong to this type of intelligence are monitoring social media and predicting social media trends.

Intuitive intelligence is the ability to think creatively and adapt to new situations, and it includes skills that require insights and creative problem solving. Examples of public relations tasks at this level of intelligence are public relations managers, or PR practitioners who work as facilitators of the problem-solving process. Complex tasks and creativity require intuitive intelligence.

While emotional intelligence requires social, communication, and relationship-building skills, this intelligence includes leadership, advocacy, and negotiation. The task of PR practitioners as expert consultants in public relations or duties as communications facilitators is part of this intelligence.

In theory, AI is very likely to be used to help humans complete a PR task, and similarly in PR practice, AI technology has the opportunity to perform technical tasks such as: distributing press releases, creating media lists, and converting audio and video transcripts to text, predicting media trends, and monitoring social media. Moreover, AI technology is able to provide recommendations on the steps that should be taken in the event of a crisis in an organization (Liew, Fifi Ee En, 2021 pp. 24-28).

What is AI? To know what AI is, we must first define what is meant by human intelligence as it is related to mental abilities such as the ability to adapt to life circumstances, benefit from previous trials and experiences, thinking,

analyzing, planning, solving problems, sound reasoning, and feel other people's emotions, in addition to the speed of learning and using what has been learned in a proper and useful way. As for AI, it is a simulation of human intelligence and an understanding of its nature by creating computer programs capable of simulating intelligent human behaviour. AI is currently found everywhere around us, starting with self-driving cars, unmanned aerial vehicles, translation or investment software, and many other widespread applications in life. (Research and Information Centre 2021, p. 5).

Artificial Intelligence (AI)

AI is the product of two scientific fields: behavioural science and neuroscience and computer science, or as it is called information science (to correctly differentiate between the two fields for specialists in automation and exact sciences). By definition, AI is the science that includes all algorithms and theoretical and applied methods concerned with automating the decision-making process. A program is usually intelligent, if it automatically performs a behaviour that is not pre-programmed, as it can make new decisions on its own to adapt to its condition and the condition of its environment over time. The AI characteristics, such as automatic behaviour, self-development, and automatic machine learning, suggest the idea of absolute freedom of the machine to make decisions in the near future and lead to the current growing fears. However, technical reality and ethical and technological obstacles say otherwise. The ethical problem of computer programs and machines is not new, and it has been raised from the beginning and continues to accompany technological development. In fact, it has created a new branch in information science that specializes in this field.

In this article, we will try to present the foundations of AI, its characteristics, and some of its live models without going into its technical details in order to shed light on the reality of its developments and ambitions between what it has actually achieved and what it hopes to achieve.

Our goal in this study as specialists is to draw a clear picture of the horizon of smart technologies growing in the academic community in order to be able to follow up on accurate studies on this topic. (Gamoura, Samia Chehbi 2018, pp. 26-27).

Motives for the Kingdom's decision to Activate AI

Based on the keenness of wise leadership to achieve precedence and entrepreneurship in all areas of development, it has become accustomed not to waiting for the future, but rather entering it, competing for its technologies, anticipating its challenges, and developing effective solutions for them. This explains the Kingdom's relentless pursuit toward the fourth-generation technologies of the industrial revolution such as AI, which is the language of the future that inevitably requires understanding its ABCs and eliminating illiteracy in it, based on the dependence of health, education, services, and other vital sectors on it. Hence, the Kingdom turned to develop specialized scientific competencies and local capabilities in the field of AI, organize specialized training courses for government employees in data science, and create a culture of AI among segments of society to facilitate the spread of the use of applications that rely on these technologies and create a digital citizen capable of dealing with them. Through concerted efforts between governmental, educational and international institutions to raise community awareness of the basics of this field, with the establishment of research centres that contribute to developing the various sectors in the country and qualifying them to receive the necessities of AI (Research and Information Centre 2021, p. 6).

AI applications

Computer vision

Computer vision is a branch of AI that aims to develop image analysis, processing and pattern recognition. It can help design teams analyze and remember results from thousands of images and videos, enable these designers to deduce contemporary and popular colour combination methods, quickly recognize design and historical patterns and reduce the research time undertaken by the designer, leaving him more time to expand his creativity and design.

Natural Language Processing (NLP)

Natural Language Processing (NLP) refers to the branch of machine learning in AI that is concerned with giving computers the ability to understand text and spoken words in the same way that humans can. Using natural language programming can help the project manager and client express project requirements in measurable, alphanumeric terms, avoiding misunderstandings and increasing the chances of project success. Using natural language programming in the early stages of defining project requirements can be considered a risk mitigation technique.
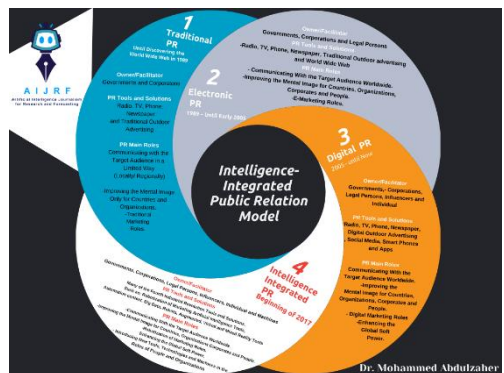

Figure (1) illustrates how AI will affect the field of PR and digital marketing

3. Design programs enhanced by AI technology There are many applications that are enhanced by the abilities of AI and currently used, the most important of which are:

3.1. Leaper

It is an AI application that does interior design. It is a combination of deep learning, image processing, and algorithms. It is also an advanced system that can produce interior designs automatically, and an intelligent computer capable of designing interior spaces independently, in itself, without the need for a

human designer. It is not limited to designers only, but rather enables ordinary users to harness the power of advanced technology and produce high-quality interior designs within minutes. The system studies a large amount of data consisting of high-quality images, and this allows it to "understand the user's needs" and study design contexts such as colour combinations, interior space, lighting, sizes, functions, etc. Then the system instantly creates various personalized designs tailored to any specific space.

3.2. DecorMatters

It is an AI-powered interior design app. DecorMatters actually works with augmented reality (AR) technology to allow users to visualize new designs in their real homes. The app also contains an AR ruler to help measure room dimensions. At the same time, the app's blockchain technology makes it easy to reward content creators (the users) with profits received from published product recommendations, in addition to copyright licenses (Youmna Hamdy 2022, p. 6).

Conditions for Employing AI Applications in Public Relations:

To make the most of ongoing developments in AI, PR practitioners need to make a strategic decision about whether and when to use AI for a particular intelligence to perform public relations tasks. Practitioners also need to equip themselves with the right skills to maintain employability and face the potential loss of their jobs due to AI (Ma, Ying & Others, 2020, pp. 165-179).

Ardila recommended the following tips for PR professionals who embrace or are eager to adopt the idea of AI in PR practice:

- Continue education: Learning basic AI terms and functions and keeping up with the latest trends in this field. This will help in understanding the capabilities, limitations and risks of deploying AI in the field of PR.

- Identify a PR need: AI is not a magic cure for every problem, so a specific task that needs improvement in terms of productivity, efficiency, or accuracy must be identified.

- Ask questions: PR practitioners should ask about the type of algorithms that support their production, how these algorithms are trained or programmed, what type of data they use, and what their level of accuracy is. Also, they should focus on what algorithms can do today and not on what they can do in the future.

- Plan for the "AI crisis": Prepare a crisis management plan and respond to AI-related crises such as bot attacks, deep fakes, data breaches, and the spread of misinformation, knowing that there are AI tools on the market that can help identify these crises.

- Translate data into insights: by transforming metrics obtained through AI platforms into actionable insights that can be directly linked to the customer.

- Build a technically expert team: Build a cross-functional team of people with skills such as coding, analytics, user experience (UX), and data visualization.

- Focus on creative and critical thinking: AI algorithms still lag behind human creativity when it comes to radical and original thinking. Creative thinking, strategic planning and instinct are still essential traits of successful PR practitioners that will not be automated in the near future.

Therefore, both machines and PR practitioners must advance together, complement and augment each other's core capabilities. In order to thrive in the age of AI, PR practitioners must develop their abilities to understand the impact of this technology and embrace it as a partner that helps them communicate with clients in a deeper and more meaningful way (Hon, Jean Valin, 2018, p76).

Study Results

Table (1) illustrates the Degree of Practice of AI Applications in DPR

Degree of Practice of AI Applications in DPR	Q	%
High	38	38.0
Average	32	32.0
Low	30	30.0

Total	100	100.0

It is clear from the data in Table (1) "Degree of Practice of AI Applications in DPR," that "high" came first with a rate of 38.0%, "Average" second with a rate of 32.0%, and "Low" third with a rate of 30.0%. This may be because AI helps PR professionals make creative, fact-based decisions in their PR campaigns and can be a reason in the decision-making process, such as the appropriate time to start a campaign, copy the content, choose an effective channel to convey the campaign message, and select opinion leaders such as bloggers, journalists, etc.
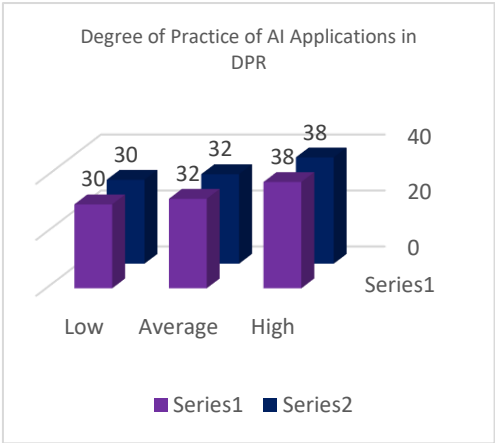

Figure (2) illustrates the degree of practice of AI applications in DPR

Table (2) illustrates institutions using AI applications among digital PR practitioners

Institutions Using AI Applications among Digital PR Practitioners	Rarely		Sometimes		Always		Total		Mean
	Q	%	Q	%	Q	%	Q	%	
In Saudi Private Institutions	22	22.0	31	31.0	47	47.0	100	100.0	2.25
In Saudi government Institutions	28	28.0	41	41.0	31	31.0	100	100.0	2.03
In both Saudi government and private institutions	30	30.0	46	46.0	24	24.0	100	100.0	1.94

It is clear from the data in Table (2) "Institutions Using AI Applications among Digital PR Practitioners" that "In Saudi Private Institutions" came first with a mean of 2.25, distributed as follows: "Always" ranked first with a rate of 47%, "Sometimes" second with a rate of 31%, and "Rarely" third with a rate of 22%. Then "In Saudi government Institutions" came second with a mean of 2.03, distributed as follows: "Sometimes" ranked first with a rate of 41%, "Always" second with a rate of 31%, and "Rarely" third with a rate of 28%. Then "In both Saudi government and private institutions" came third with a mean of 1.94, distributed as follows: "Sometimes" ranked first with a rate of 46%, "Rarely" second with a rate of 31%, and "Always" third with a rate of 28%. This is due to the fact that modern technology, information technologies and digital transformation have contributed to developing, facilitating and accelerating administrative development in

special devices and provided many benefits at various levels and in all functions and roles practiced by modern management.
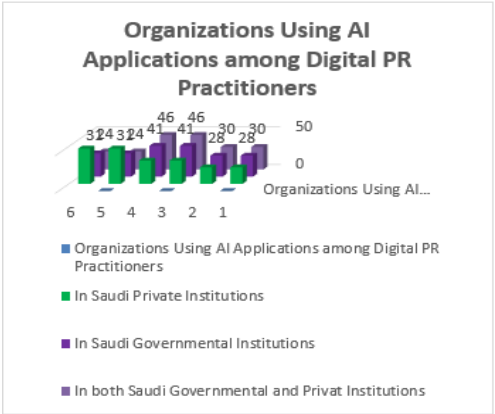

Figure (2) illustrates the institutions used for AI applications among DPR practitioners

Table (3) illustrates the Status of AI Applications in Saudi government and private Institutions

Status of AI Applications in Saudi government and private Institutions	Government Institutions		Private Institutions		Total		Mean
	Q	%	Q	%	Q	%	
AI applications are being used in a sophisticated and effective manner.	30	30.0	70	70.0	100	100.0	1.70
The use of AI applications has not reached the required level.	70	70.0	30	30.0	100	100.0	1.30
The use of AI applications is still in the growth stage	92	92.0	8	8.0	100	100.0	1.08

It is clear from the data in Table (3) "The status of AI applications in Saudi government and private Institutions" that "AI applications are being used in a sophisticated and effective manner" came first place with an average of 1.70, distributed as follows: "Private Institutions" ranked first with a rate of 70%, and "Government Institutions" second with a rate of 30%. Then "the use of AI applications has not reached the required level" came second with an average of 1.30, distributed as follows: "Government Institutions" ranked first with a rate of 70%, and "Private Institutions" second with a rate of 30%. Then "the use of AI applications is still in the growth stage" came third with an average of 1.08, distributed as follows: "Government Institutions" ranked first with a rate of 92%, and "Private Institutions" second with a rate of 8%. This is due to the fact that PR and marketing professionals suffer from ineffective communication with influencers and social media. They do not have enough time to organize relevant lists or customize specific messages directly for each influencer. However, through the use of AI, influencers' posts can be analyzed to determine the extent of their influence, previous posts they have written about, and how competitors deal with influencers in launching product promotional campaigns. This can then classify and identify influencers who have a higher response rate and influence.
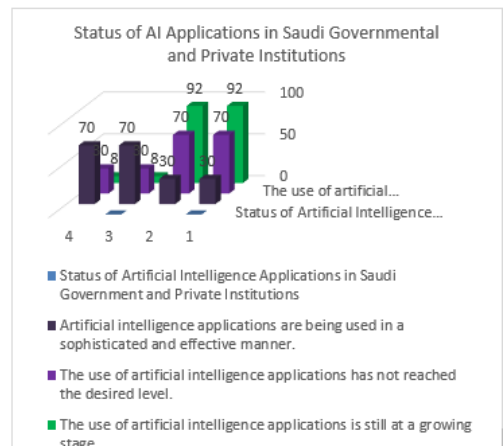

Figure (3) illustrates the status of AI Applications in Saudi government and private Institutions

Table (4) illustrates the extent of readiness of Saudi government and private Institutions to employ AI Applications in DPR

The Extent of Readiness of Saudi government and private Institutions to employ AI Applications in DPR	Q	%
Very Prepared	47	47.0
Somewhat Ready	45	45.0
Not Ready at All	8	8.0
Total	100	100.0

It is clear from the data in Table (4) "The Extent of Readiness of Saudi government and private Institutions to employ AI Applications in DPR" that "Very Prepared" came first with a rate of 47%, "Somewhat Ready" second with a rate of 45%, and "Not Ready At All" third with a rate of 8%. This is due to the fact that it is very important to know the audience's feelings toward any brand, in order to understand their behaviour and the extent of their interaction with this brand. Today, AI provides features capable of analyzing sentiment, which is considered an integral part of social media tools to measure how customers feel about a product, service, or brand, and enables PR and marketing professionals to make data-based decisions about audiences, behaviour, and marketing campaign performance and social listening tools.
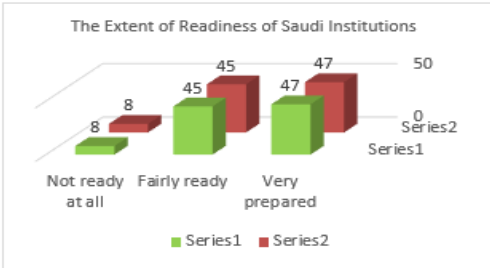

Figure (4) illustrates the extent of readiness of Saudi government and private Institutions to employ AI applications in DPR

Table (5) illustrates the likelihood of reasons that could prompt Saudi government and private Institutions to employ AI applications

Likelihood of reasons that Could Prompt Saudi government and private Institutions to employ AI Applications	Unlikely		Likely		Very Likely		Total		Mean
	Q	%	Q	%	Q	%	Q	%	
To promote innovation	37	37.0	8	8.0	55	55.0	100	100.0	2.18
To better analyze data and extract new information	39	39.0	8	8.0	53	53.0	100	100.0	2.14
To improve the decision-making mechanism	45	45.0	8	8.0	47	47.0	100	100.0	2.02
To increase the efficiency and effectiveness of PR	46	46.0	16	16.0	38	38.0	100	100.0	1.92

It is clear from the data in Table (5) "Likelihood of reasons that Could Prompt Saudi government and private Institutions to employ AI Applications" that "To promote innovation" came first with a mean of 2.18, distributed as follows: "Very Likely" ranked first with a rate of 55%, "Unlikely" second with a rate of 37%, and "Likely" third with a rate of 8%. Then "To better analyze the data and extract new information" came second with an average of 2.14, distributed as follows: "Very Likely" ranked first with a rate of 53%, "Unlikely" second with a rate of 39%, and "Likely" third with a rate of 8%. Then the third was "To improve the decision-making mechanism" with an average of 2.02, distributed as follows: "Very Likely" ranked first with a rate of 47%, "Unlikely" second with a rate of 45%, and "Likely" third with a rate of 8%. This is due to the fact that most companies adopting AI through combining both in-house and non-traditional solutions. AI allows companies to customize unique business needs. Pre-built AI solutions enable you to simplify implementation with a ready-to-use solution for the most common business problems.
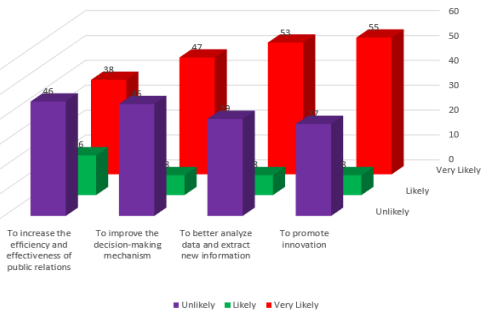

Figure (5) illustrates the extent of the possible reasons that drive Saudi government and private Institutions to employ AI applications

Table (6) illustrates the communication activities that may be affected by employing AI applications

Communication activities that may be affected by the use of AI applications	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Weight	Rank
Advertisements	85	-	7	8	-	-	-	6.62	1
Public Relations	77	-	-	23	-	-	-	6.31	2
Digital Marketing	68	8	8	8	8	-	-	6.20	3
Direct Marketing	68	-	8	16	8	-	-	6.04	4
Sales promotion	47	22	7	8	-	8	8	5.68	5
Personal Selling	31	22	24	8	-	15	-	5.31	6
Customers Service	23	24	8	16	14	15	-	4.81	7

It is clear from the data in Table (6) "Communication activities that may be affected by the use of AI applications" that Advertisements ranked first with a weight of 6.62, "Public Relations" second with a weight of 6.31, "Digital Marketing" third with a weight of 6.20, "Direct Marketing" fourth with a weight of 6.04, "Sales Promotion" fifth with a weight of 5.68, and the rest of the activities followed in smaller proportions. This is due to that AI applications contribute to developing the advertising campaigns and serving the customers better and more qualitatively than before, thus determining the customer' interests on which he will base his next purchasing decisions, which makes it easier to target him with sponsored ads.
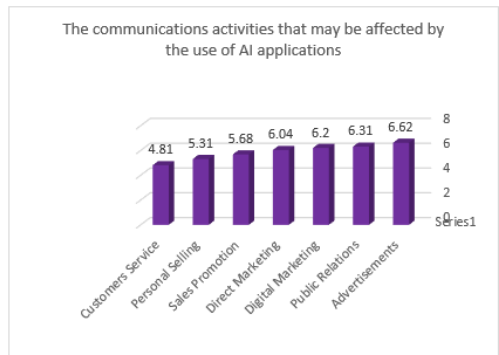

Figure (6) illustrates the communications activities that may be affected by the use of AI applications

Table (7) illustrates the public relations activities that may be affected by employing AI applications

Public Relations activities that may be affected by employing AI applications	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Weights	Rank
introducing the organization	84	16	-	-	-	-	-	-	7.84	1
Planning and implementing public relations programs and campaigns	14	79	-	7	-	-	-	-	7.00	2
Preparing and editing booklets, guides, reports, brochures, bulletins and publications	21	16	56	-	-	-	-	7	6.23	3
Preparing and editing the institution's magazine and its various periodicals	21	23	-	48	-	-	-	8	5.77	4
Planning and implementing posters and advertisements	28	17	2	1	48	2	1	1	5.74	5
Preparing all types of radio and television materials	38	16	7	-	-	7	32		5.43	6
Organizing meetings, conferences, seminars and parties	7	16	-	-	-	-	-	-	3.38	7
Organizing visits, trips, open days, receptions and exhibitions	-	16	7	8	-	16	14	39	3.09	8

It is clear from the data in Table (7) that "Public Relations activities that may be affected by employing AI applications" that "introducing the organization" came first with a weight of 7.84, and "planning and implementing public relations programs and campaigns" second with a weight of 7.00. "Preparing and editing booklets, guides, reports, brochures, bulletins

and publications" came third, with a weight of 6.23, and "Preparing and editing the institution's magazine and its various periodicals" fourth with a weight of 5.77, and "planning and implementing posters and advertisements" fifth with a weight of 5 .74. Then the rest of the activities followed in smaller proportions. This is because AI plays a major role in the field of advertising, as it contributes significantly to reaching the customer through several ways, including: deepening consumer understanding, improving content creation, providing more efficient customer service, and finally improving advertisements' performance.
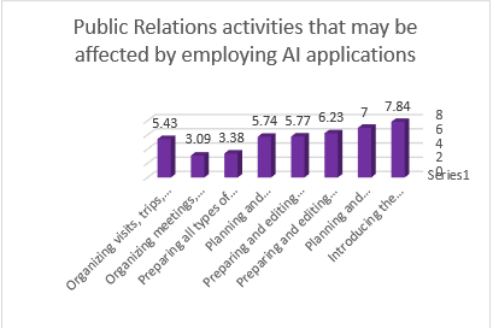

Figure (7) illustrates public relations activities that may be affected by employing AI applications

Table (8) illustrates the expected benefits of employing AI applications in DPR

Expected Benefits of Employing AI Applications in DPR	Q	%
The ability to analyze and transform data as needed in a much easier way, with greater reliability and less time consumption	93	93.0
It is expected that AI helps measure how customers feel about products and becomes an important part for any PR professional	93	93.0
It is expected that AI helps PR managers in campaign design (making decisions on campaign launch, content, channels, influencers)	86	86.0
It can make calls with customers better	86	86.0
It is expected that AI will enable PR professionals to get real-time client trends	79	79.0
AI will help create content that can be used without inconsistencies or errors	76	76.0
It is expected that AI will make predictions using large amounts of data to make decisions easier	72	72.0
It is expected that AI will help in creating huge databases to make work faster and more effective.	65	65.0
N=650		

It is clear from the data in Table (8) "Expected Benefits of Employing AI Applications in DPR" that "the ability to analyze and transform data as needed in a much easier way, with greater reliability and less time consumption" and "it is expected that AI helps measure how customers feel about products and becomes an important part for any PR professional" came first with a rate of 93.0% and "It is expected that AI helps PR managers in campaign design (making decisions on campaign launch, content, channels, influencers)" and "It can make calls with customers better" came second with a rate of 86.0%. "It is expected that AI will enable PR professionals to get real-time client trends" came third with a rate of 79.0%, followed by the rest of the categories at successive rates. This is due to the fact that data

mining and analysis to make decisions is considered one of the most important areas of uses of AI and its applications in today's world in data science. AI can contribute to identifying the need for information, collecting information, processing information, disseminating information, training and gaining experience in data and analysis, and this information is obtained from practice and experience. AI applications at this level are machine learning, data analysis, and public relations tasks that can be classified in this type of intelligence involve monitoring social media and predicting media trends.
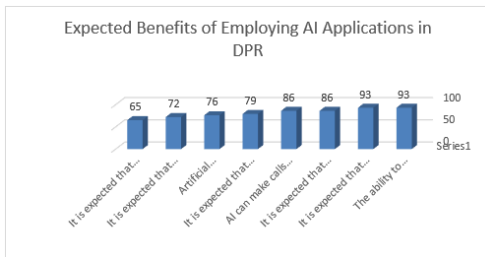
Figure (8) illustrates the expected benefits of employing AI applications in DPR

Table (9) illustrates the obstacles and challenges that make it likely that AI applications will not be employed

Obstacles and Challenges that Make It Likely that AI Applications Will Not Be Employed	Q	%
Practitioners' anxiety and fear about being replaced by robots and smart technologies	100	100.0
Clients' anxiety about their privacy and data confidentiality.	100	100.0
Availability of financial ability to purchase smart systems and devices.	100	100.0
High financial costs for purchasing smart systems and devices.	93	93.0
Practitioners' continued failure to accept and adapt to change.	93	93.0
Lack of qualification of practitioners and not providing them with the necessary skills to deal with it	86	86.0
Lack of a strong communications network that helps with this.	79	79.0
Benefiting from applications and completing tasks at a very high speed	79	79.0
Continuous training of practitioners to raise their skills and abilities to use technologies with high efficiency	86	86.0
N=816		

It is clear from the data in Table (9) "Obstacles and Challenges that Make It Likely that AI Applications Will Not Be Employed" that "Practitioners' anxiety and fear about being replaced by robots and smart technologies", "Clients' anxiety about their privacy and data confidentiality" and "Availability of financial ability to purchase smart systems and devices" came first with a rate of 100%, "High financial costs for purchasing smart systems and devices" and "Practitioners' continued failure to accept and adapt to change" came second with a rate of

93%, and "Lack of qualification of practitioners and not providing them with the necessary skills to deal with it" came third with a rate of 86.0%, then the rest of the categories followed in successive percentages. This is due to the participants' feeling of fear or anxiety about employing AI in PR, otherwise they view AI as tools that can help build their professional lives, and this is what most of them confirmed during their interview, as one of them stated ("it is impossible to replace the real public relations profession because it is not that easy. Public relations work is very complex, so AI must be very advanced first").
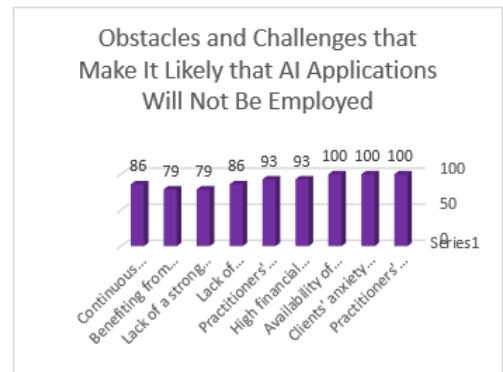

Figure (9) illustrates the obstacles and challenges that make it likely that AI applications will not be employed.

Table (10) illustrates the future of practitioners in the context of the expected implementation of AI applications in DPR.

Future of Practitioners in the Context of the Expected Implementation of AI Applications in DPR	Q	%
Practitioners will need training on how to deal with current and potential AI applications.	100	100.0
Practitioners' tasks will be simplified, and their focus will be on performing their tasks better.	93	93.0
Practitioners will need training on managing clients' concerns about AI.	86	86.0
Practitioners will be given a clear picture of current and potential client needs, enabling them to plan better.	60	60.0
N=339		

It is clear from the data in Table (10) "Future of Practitioners in the Context of the Expected Implementation of AI Applications in DPR" that "Practitioners will need training on how to deal with current and potential AI applications" came first with a rate of 100%, "Practitioners' tasks will be simplified and their focus will be on performing their tasks better" second with a rate of 93.0%, and "Practitioners will need training on managing clients' concerns about AI" third with a rate of 86.0%, then the rest of the categories followed in successive percentages. This is due to the fact that PR practitioners must enhance their skills in areas such as basic research, content development, program evaluation, and issues and crises management, and PR also requires creativity, which is a way of thinking that a machine cannot replace.
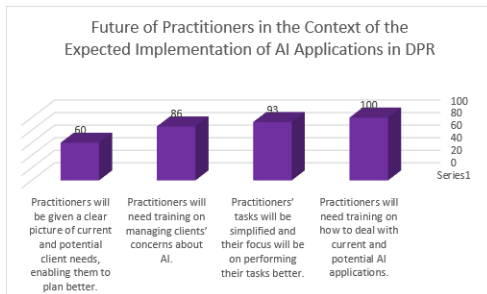

Figure (10) illustrates the future of practitioners in the context of the expected implementation of AI applications in DPR.

Table (11) illustrates the benefits of employing AI applications.

Benefits of Employing AI Applications	Q	%
Building massive databases enables organizations to launch highly coordinated and targeted marketing campaigns.	100	100.0
Improving the company's ability to tailor its messages according to the specific interests and needs of diverse audiences.	86	86.0
Ability to automatically capture and record customer data as well as customer feedback.	84	84.0
These applications offer multiple possibilities for interactive communication.	60	60.0
N=330		

It is clear from the data in Table (11) "Benefits of Employing AI Applications" that "Building massive databases enables organizations to launch highly coordinated and targeted marketing campaigns" came first with a rate of 100%, "Improving the company's ability to tailor its messages according to the specific interests and needs of diverse audiences" came second with a rate of 86.0%, and "Ability to automatically capture and record customer data as well as customer feedback" came third with a rate of 84.0%, then came the rest of the categories in successive percentages. This is due to the fact that it provides a dedicated database based on transactions between commercial institutions or on transactions between institutions and customers, by classifying specific information/additional data fields requested by the client to develop marketing and business strategies.
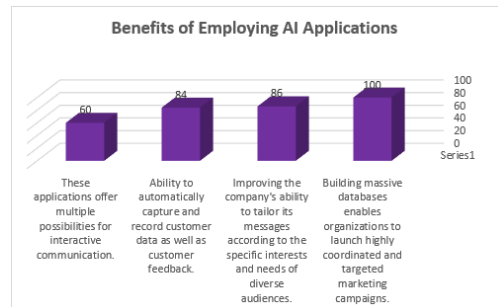

Figure (11) illustrates the benefits of employing AI applications.

Table (12) illustrates the future of digital PR practitioners in the context of the expected implementation of AI applications

Future of Digital PR Practitioners in the Context of the Expected Implementation of AI Applications	Q	%
AI will replace practitioners.	50	50.0
Practitioners' refusal to employ AI and their inability to handle AI applications	35	35.0
Practitioners remain skeptical about their companies' ability to employ AI applications.	8	8.0
Practitioners' technical skills shortage continues.	7	7.0
Total	100	100.0

It is clear from the data in Table (12) "Future of Digital PR Practitioners in the Context of the Expected Implementation of AI Applications" that "AI will replace practitioners" came first with a rate of 50%, "Practitioners' refusal to employ AI and their inability to handle AI applications" with a rate of 35%, and "Practitioners remain skeptical about their companies' ability to employ AI applications" with a rate of 8%, then the rest of the categories followed in successive percentages. This is due to the fact that AI allows PR practitioners to automate repetitive tasks such as tracking media coverage and what is being said about certain topics. The role of automation is not limited to doing some of the many tasks that PR performs, but it also increases the ability of PR practitioners to obtain insights within seconds.
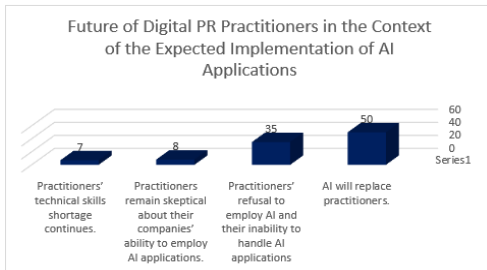

Figure (12) illustrates the future of digital PR practitioners in the context of the expected implementation of AI applications

Table (13) illustrates the advantages of AI applications in DPR.

Advantages of AI Applications in DPR	Q	%
Supporting and facilitating the tasks of digital PR practitioners	100	100.0
Developing customer relationships with organizations and classifying them by building messages that suit their personal characteristics, lifestyles and behaviour	100	100.0
Profiling customer habits, interactions and preferences	100	100.0
Analyzing social media platforms data	86	86.0
Using and processing of Big Data by digital PR specialists	86	86.0
N=472		

It is clear from the data in Table (13) "Advantages of AI Applications in DPR" that "Supporting and facilitating the tasks of digital PR practitioners" and "Developing customer relationships with organizations and classifying them by building messages that suit their personal characteristics, lifestyles and behaviour" and "Profiling customer habits, interactions and preferences" came first with a rate of 100%, and "Analyzing social media platforms data" and "Using and processing of Big Data by digital PR specialists" came second with a rate of 86.0%. This is due to the fact that AI allows PR practitioners to accurately determine people's feelings and opinions about the brand and compare this feeling with other metrics such as engagement or sales. AI enables PR specialists to gain insights and a deep understanding of what they need from the digital world at the same time. This feature can be crucial and lifesaving in difficult times, such as crises, when conversations spread quickly, and time is your most valuable asset. Imagine an attack on the organization via social media.
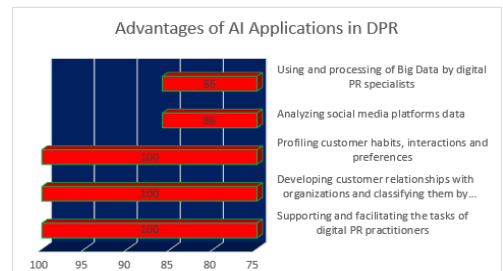

Figure (13) illustrates the advantages of AI applications in DPR.

Table (14) illustrates the importance of employing AI applications in the practice of DPR.

Importance of Employing AI Applications in the Practice of DPR	Q	%
Very Important	39	39.0
Somewhat Important	38	38.0
Unimportant	22	22.0
Total	100	100.0

It is clear from the data in Table (14) "Importance of Employing AI Applications in the Practice of DPR" that "Very Important" came first with a rate of 39.0%, "Somewhat Important" came second with a rate of 38.0%, and "Unimportant" came third with a rate of 22.0%. This is due to the fact that employing AI technologies in the PR industry ensures the reduction of errors that can be attributed to humans, which in turn increases the efficiency and effectiveness of the work done. AI systems with algorithms can analyze big data and create content quickly. Experts also believe that humans and AI in the workplace will coexist, and cooperation between humans and AI will lead to smarter, more creative and innovative work overtime. Data and human supervision are both closely related to the AI system for learning, adaptation and efficiency. Finally, to embrace the potential of AI, it is necessary to understand what AI has to offer currently in the PR industry and how it can be further improved in the future without any breach of trust and privacy.
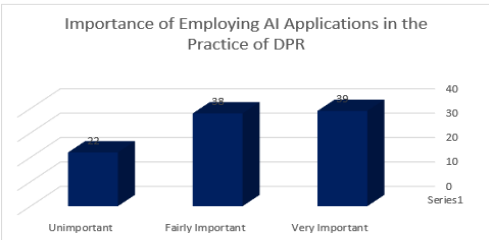

Figure (14) illustrates the importance of employing AI applications in the practice of DPR.

Table (15) illustrates suggestions to enhance the employment of AI applications.

Suggestions to Enhance the Employment of AI Applications	Q	%
Subjecting practitioners to continuous training and qualification to raise their skills and abilities to use technologies with high efficiency	100	100.0
Training practitioners on in-depth customer management with AI.	100	100.0
Establishing a clear policy for working with these technologies that is relatively stable and preserves customer rights.	93	93.0
Paying attention to the infrastructure for acquiring AI applications	86	86.0
Benefiting from successful experiences in employing AI applications.	86	86.0
N=465		

It is clear from the data in Table (16) "Suggestions to Enhance the Employment of AI Applications" that "Subjecting practitioners to continuous training and qualification to raise their skills and abilities to use technologies with high efficiency" and "Training practitioners on in-depth customer management with AI" came first with a rate of 100%, "Establishing a clear policy for working with these technologies that is relatively stable and preserves customer rights" second with a rate of 93%, and "Paying attention to the infrastructure for acquiring AI applications" and "Benefiting from successful experiences in employing AI applications" came third with a rate of 86%. This is because PR practitioners must enhance their skills in various areas such as basic research, content development, program evaluation, and issues and crises management. PR also requires creativity, so both machines and PR practitioners must advance together, complement and augment each other's core capabilities. In order to thrive in the age of AI, PR practitioners must develop their abilities to understand the impact of this technology and embrace it as a partner that helps them communicate with clients in a deeper and more meaningful way.
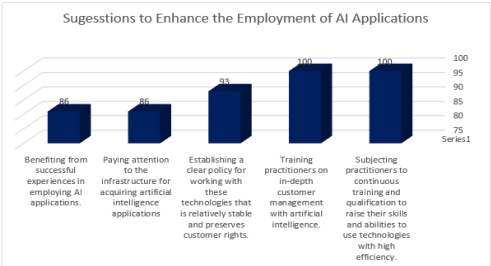

Figure (15) illustrates suggestions to enhance the employment of AI applications.

Table (16) illustrates the features of the future of employing AI applications.

Features of the Future of Employing AI Applications	Q	%
Tasks that require interaction with humans cannot be replaced by AI.	100	100.0
Customers will discover that they are interacting with a robot, which will lead to negative consequences.	100	100.0
It will help PR practitioners develop their analytical and creative abilities.	100	100.0
In fact, there are some tasks that can be replaced and others that cannot.	100	100.0
There will be innovative ways to attract clients.	100	100.0
It is impossible to replace the real PR profession because it is not that fluid, the PR work is very complex	86	86.0
At the moment, it is unlikely that PR jobs will be replaced by machines, but in the future, it is possible.	86	86.0
AI will be very useful, but it will require very complex computing.	86	86.0
. N=758		

It is clear from the data in Table (17) "Features of the Future of Employing AI Applications" that "Tasks that require interaction with humans cannot be replaced by AI", "Customers will discover that they are interacting with a robot, which will lead to negative consequences", "It will help PR practitioners develop their analytical and creative abilities", "In fact, there are some tasks that can be replaced and others that cannot" and

"There will be innovative ways to attract clients" came first with a rate of 100%, and "It is impossible to replace the real PR profession because it is not that fluid, the PR work is very complex", "At the moment, it is unlikely that PR jobs will be replaced by machines, but in the future it is possible" and "AI will be very useful, but it will require very complex computing" second with a rate of 86.0%. This is because AI job replacement occurs primarily at the task level rather than the job level. AI replaces at least some human workers in a service when AI can do some of the job tasks better to meet the company's strategic goal, and then AI advances to replace human service workers when it has the ability to take over all of the job tasks.
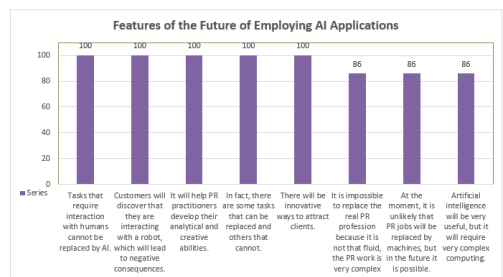

Figure (16) illustrates the features of the future of employing AI applications

Table (17) illustrates the use of AI applications in DPR practices in Saudi government and private Institutions at the present time.

Use of AI Applications in DPR Practices in Saudi government and private Institutions at the Present Time	High		Average		Low		Total		Mean
	Q	%	Q	%	Q	%	Q	%	
In Saudi Private Institutions	35	35.0	57	57.0	8	8.0	100	100.0	1.73
In Saudi government Institutions	56	56.0	39	39.0	5	5.0	100	100.0	1.49

It is clear from the data in Table (17) "Use of AI Applications in DPR Practices in Saudi government and private Institutions at the Present Time" that "In Saudi Private Institutions" came first with a mean of 1.73, distributed as follows: "Average" ranked first with a rate of 57.0%, "High" second with a rate of 35.0%, and "Low" third with a rate of 8.0%. "In Saudi government Institutions" came second

with a mean of 1.49, distributed as follows: "High" first with a rate of 56.0%, "Average" second with a rate of 39.0%, and "Low" third with a rate of 5.0%. This is due to the fact that all institutions will need to develop a strategy for AI, because AI will invade every field from simple operating systems to robots, cars, home health care and entertainment. The undirected use of AI may lead to significant job losses in the

short term. Socially conscious organizations want to find a way to mitigate the impact of this disruption on their workforce and the political stability of the region. In many parts of the world that have not mitigated job losses through retraining, geopolitical change and market instability have not been good for business as a whole. Some organizations have started using AI in HR. This requires organizations to be aware of the potential problems of using AI in this field and others. These problems are divided into four main categories: bias, transparency, accountability, and privacy.
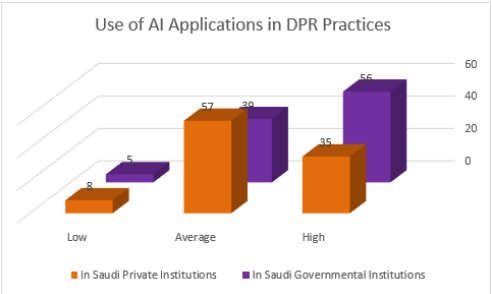

Figure (17) illustrates the use of AI applications in DPR practices

Table (18) illustrates the sample characteristics related to the demographic variables of the study.

Variable	Field sample characteristics	Q	%
Gender	Male	68	68.0
	Female	32	32.0
	Total	100	100.0
Age	55 and above	44	44.0
	45 to less than 55	41	41.0
	18 to less than 30	8	8.0
	30 to less than 45	7	7.0
	Total	100	100.0
Qualification	Graduate	54	54.0
	Master's	23	23.0
	PhD	23	23.0
	Total	100	100.0
Monthly income	More than 10,000 Riyals	49	49.0
	From 7000 to 10000 Riyals	24	24.0
	From 5000 to 7000 Riyals	24	24.0
	Less than 5000 Riyals	3	3.0
	Total	100	100.0
Duration of experience in Public Relations	1-5 Years	31	31.0
	6-10 Years	25	25.0
	11-15 Years	30	30.0
	16-20 Years	14	14.0
	Total	100	100.0
Institution Type	Saudi Private Institutions	54	54.0
	Saudi government Institutions	46	46.0
	Total	100	100.0

The data in Table (21) indicate the following:

In the study sample, the male percentage was 68.0%, and the female 32.0%, as a random sample of each type was selected, so that the type could be tested as an intermediate variable. As for the age, "55 and over" came first and was the most common category in the sample with a rate of 44.0%. This indicates that most of the sample members are elderly, which is consistent with the nature of PR practices. As for the qualification, the "Graduate" category came first and was the most common category in the sample with a rate of 54.0%. As for the monthly income level, the "more than 10,000 Riyals" category came first and was the most common category in the sample with a rate of 49.0%. As for the period of experience in public relations, the "1-5 years" category came first place and was the most common category in the sample with a rate of 31.0%. As for the institution type, the "Saudi

Private Institutions" category came first and was the most common category in the sample with a rate of 54.0%.

Study Hypotheses

☐ First hypothesis: There is a statistically significant correlation between the degree of your practice of AI applications in DPR and the importance of employing AI applications in the practice of DPR.

Degree of practice of AI applications in DPR	Importance of Employing AI Applications in DPR Practices	
	Pearson correlation coefficient	.075
	Morale level	.459
	Q	100

By conducting the Pearson correlation coefficient test, it was found that there were no statistically significant differences between the degree of your practice of AI applications in DPR and the importance of employing AI applications in practicing DPR.

☐ The second hypothesis: There are statistically significant differences between the degree of your practice of AI applications in DPR according to the type of institution.

Institution Type	Chi-Square Test	Degrees of Freedom (df)	Significance level (sig)	Significance
Saudi government Institutions	43.924	4	.000	Significant
Saudi Private Institutions	34.941	4	.000	Significant
Saudi government and private Institutions	55.033	4	.000	Significant

- By conducting the Chi-square test, statistically significant differences were found between the degree of your practice of AI applications in DPR according to the type of institution.

☐ The third hypothesis: There is a statistically significant correlation between the readiness of Saudi government and private Institutions to employ AI applications in DPR and the extent of the probability of the reasons that could prompt Saudi government and private Institutions to employ AI applications in DPR.

Extent of Readiness of Saudi government and private Institutions	Likelihood of reasons that could prompt Saudi government and private Institutions to employ AI applications	
	Pearson correlation coefficient	-.410-**
	Morale level	.000
	Q	100

By conducting the Pearson correlation coefficient test, statistically significant differences were found between the extent of readiness of Saudi government and private Institutions to employ AI applications in DPR and the likelihood of reasons that could prompt Saudi government and private Institutions to employ AI applications in DPR.

☐ Hypothesis Four: There is a statistically significant correlation between the degree of your practice of AI applications in DPR and the expected benefits of employing AI applications in DPR.

Degree of your practice of AI applications in DPR	Expected Benefits of Employing AI Applications in DPR	
	Pearson correlation coefficient	.647**
	Morale level	.000
	Q	100

By conducting the Pearson correlation coefficient test, statistically significant differences were found between the degree of your practice of AI applications in DPR and the expected benefits of employing AI applications in DPR.

☐ Hypothesis Five: There is a statistically significant correlation between the obstacles and challenges that suggest the possibility of not employing AI applications in DPR and the features of the future of employing AI applications.

Obstacles and challenges that make it likely that AI applications will not be employed in DPR	Features of the Future of Employing AI Applications	
	Pearson correlation coefficient	.744**
	Morale level	.000
	Q	100

By conducting the Pearson correlation coefficient test, statistically significant differences were found between the obstacles and challenges that make it likely that AI applications will not be employed in DPR and the features of the future of employing AI applications.

General Results of the Study

• "Degree of Practice of AI Applications in DPR": "high" came first with a rate of 38.0%, "Average" second with a rate of 32.0%, and "Low" third with a rate of 30.0%.

• "Institutions Using AI Applications among Digital PR Practitioners": "In Saudi Private Institutions" came first with a mean of 2.25, distributed as follows: "Always" ranked first with a rate of 47%, "Sometimes" second with a rate of 31%, and "Rarely" third with a rate of 22%. Then "In Saudi government Institutions" came second with a mean of 2.03, distributed as follows: "Sometimes" ranked first with a rate of 41%, "Always" second with a rate of 31%, and "Rarely" third with a rate of 28%. Then "In both Saudi government and private institutions" came

third with a mean of 1.94, distributed as follows: "Sometimes" ranked first with a rate of 46%, "Rarely" second with a rate of 31%, and "Always" third with a rate of 28%.

• "The status of AI applications in Saudi government and private Institutions": "AI applications are being used in a sophisticated and effective manner" came first place with an average of 1.70, distributed as follows: "Private Institutions" ranked first with a rate of 70%, and "Government Institutions" second with a rate of 30%. Then "the use of AI applications has not reached the required level" came second with an average of 1.30, distributed as follows: "Government Institutions" ranked first with a rate of 70%, and "Private Institutions" second with a rate of 30%. Then "the use of AI applications is still in the growth stage" came third with an average of 1.08, distributed as follows: "Government Institutions" ranked first with a rate of 92%, and "Private Institutions" second with a rate of 8%.

• "The Extent of Readiness of Saudi government and private Institutions to employ AI Applications in DPR": "Very Prepared" came first with a rate of 47%, "Somewhat Ready" second with a rate of 45%, and "Not Ready at All" third with a rate of 8%.

• "Likelihood of reasons that Could Prompt Saudi government and private Institutions to employ AI Applications": "To promote innovation" came first with a mean of 2.18, distributed as follows: "Very Likely" ranked first with a rate of 55%, "Unlikely" second with a rate of 37%, and "Likely" third with a rate of 8%. Then "To better analyze the data and extract new information" came second with an average of 2.14, distributed as follows: "Very Likely" ranked first with a rate of 53%, "Unlikely" second with a rate of 39%, and "Likely" third with a rate of 8%. Then the third was "To improve the decision-making mechanism" with an average of 2.02, distributed as follows: "Very Likely" ranked first with a rate of 47%, "Unlikely" second with a rate of 45%, and "Likely" third with a rate of 8%.

• "Communication activities that may be affected by the use of AI applications": Advertisements ranked first with a weight of 6.62, "Public Relations" second with a weight of 6.31, "Digital Marketing" third with a weight of 6.20, "Direct Marketing" fourth with a weight of 6.04, "Sales Promotion" fifth with a weight of 5.68, and the rest of the activities followed in smaller proportions.

• "Public Relations activities that may be affected by employing AI applications": "introducing the organization" came first with a weight of 7.84, and "planning and implementing public relations programs and campaigns" second with a weight of 7.00. "Preparing and editing booklets, guides, reports, brochures, bulletins and publications" came third, with a weight of 6.23, and "Preparing and editing the institution's magazine and its various periodicals" fourth with a weight of 5.77, and "planning and implementing posters and advertisements" fifth with a weight of 5 .74. Then the rest of the activities followed in smaller proportions.

• "Expected Benefits of Employing AI Applications in DPR": "the ability to analyze and transform data as needed in a much easier way, with greater reliability and less time consumption" and "it is expected that AI helps measure how customers feel about products and becomes an important part for any PR professional" came first with a rate of 93.0% and "It is expected that AI helps PR managers in campaign design (making decisions on campaign launch, content, channels, influencers)" and "It can make calls with customers better" came second with a rate of 86.0%. "It is expected that AI will enable PR professionals to get real-time client trends" came third with a rate of 79.0%, followed by the rest of the categories at successive rates.

• "Obstacles and Challenges that Make It Likely that AI Applications Will Not Be Employed": "Practitioners' anxiety and fear about being replaced by robots and smart technologies", "Clients' anxiety about their privacy and data confidentiality" and "Availability of financial ability to purchase smart systems and devices" came first with a rate of 100%, "High financial costs for purchasing smart systems and devices" and "Practitioners' continued failure to accept and adapt to change" came second with a rate of 93%, and "Lack of qualification of practitioners and not providing them with the necessary skills to deal with it" came third with a rate of 86.0%.

• "Future of Practitioners in the Context of the Expected Implementation of AI Applications in DPR": "Practitioners will need training on how to deal with current and potential AI applications" came first with a rate of 100%, "Practitioners' tasks will be simplified and their focus will be on performing their tasks better" second with a rate of 93.0%, and "Practitioners will need training on managing clients' concerns about AI" third with a rate of 86.0%, then the rest of the categories followed in successive percentages.

• "Benefits of Employing AI Applications": "Building massive databases enables organizations to launch highly coordinated and targeted marketing campaigns" came first with a rate of 100%, "Improving the company's ability to tailor its messages according to the specific interests and needs of diverse audiences" second with a rate of 86.0%, and "Ability to automatically capture and record customer data as well as customer feedback" third with a rate of 84.0%, then came the rest of the categories in successive percentages.

• "Future of Practitioners in the Context of the Expected Implementation of AI Applications in DPR": "Practitioners will need training on how to deal with current and potential AI applications" came first with a rate of 100%, "Practitioners' tasks will be simplified and their focus will be on performing their tasks better" second with a rate of 93.0%, and "Practitioners will need training on managing clients' concerns about AI" third with a rate of 86.0%, then the rest of the categories followed in successive percentages.

• "Future of Digital PR Practitioners in the Context of the Expected Implementation of AI Applications": "AI will replace practitioners" came first with a rate of 50%, "Practitioners' refusal to employ AI and their inability to handle AI applications" with a rate of 35%, and "Practitioners remain skeptical about their companies' ability to employ AI applications" with a rate of 8%, then the rest of the categories followed in successive percentages.

• "Advantages of AI Applications in DPR": "Supporting and facilitating the tasks of digital PR practitioners" and "Developing customer relationships with organizations and classifying them by building messages that suit their personal characteristics, lifestyles and behaviour" and "Profiling customer habits, interactions and preferences" came first with a rate of 100%, and "Analyzing social media platforms data" and "Using and processing of Big Data by digital PR specialists" came second with a rate of 86.0%.

• "Importance of Employing AI Applications in the Practice of DPR": "Very Important" came first with a rate of 39.0%, "Somewhat Important" came second with a rate of 38.0%, and "Unimportant" came third with a rate of 22.0%.

• "Suggestions to Enhance the Employment of AI Applications": "Subjecting practitioners to continuous training and qualification to raise their skills and abilities to use technologies with high efficiency" and "Training practitioners on in-depth customer management with AI" came first with a rate of 100%, "Establishing a clear policy for working with these technologies that is relatively stable and preserves customer rights" second with a rate of 93%, and "Paying attention to the infrastructure for acquiring AI applications" and "Benefiting from successful experiences in employing AI applications" came third with a rate of 86% .

• "Features of the Future of Employing AI Applications": "Tasks that require interaction with humans cannot be replaced by AI",

"Customers will discover that they are interacting with a robot, which will lead to negative consequences", "It will help PR practitioners develop their analytical and creative abilities", "In fact, there are some tasks that can be replaced and others that cannot" and "There will be innovative ways to attract clients" came first with a rate of 100%, and "It is impossible to replace the real PR profession because it is not that fluid, the PR work is very complex", "At the moment, it is unlikely that PR jobs will be replaced by machines, but in the future it is possible" and "AI will be very useful, but it will require very complex computing" second with a rate of 86.0%.

• "Use of AI Applications in DPR Practices in Saudi government and private Institutions at the Present Time" that "In Saudi Private Institutions" came first with a mean of 1.73, distributed as follows: "Average" ranked first with a rate of 57.0%, "High" second with a rate of 35.0%, and "Low" third with a rate of 8.0%. "In Saudi government Institutions" came second with a mean of 1.49, distributed as follows: "High" first with a rate of 56.0%, "Average" second with a rate of 39.0%, and "Low" third with a rate of 5.0%.

Recommendations

☐ There is a need to focus on training practitioners to deal with various AI applications, while providing the effort and time required to learn how to use and apply these new technologies.

☐ There should be diversification in the practice of many technical tools in the field of PR.

☐ PR practitioners should continue to train and qualify themselves.

☐ AI technologies should be benefited from and adapted in the field of PR work.

☐ Government and private Institutions should benefit from technical experiences which have proven their success and effectiveness in PR field.

Suggestions

□   Further future field and analytical studies on companies, practitioners and clients should be conducted to identify the uses of AI applications in marketing fields in general and the factors affecting this.

□   Future visions for the future field of PR should be presented in the light of creative media.

□   The future studies should focus on how to employ AI technologies in various PR functions, and benefit from these technologies in developing the profession and practitioners in the Arab world.

□   The study of AI should be put on the list of important topics that should be raised for further legal study to develop binding texts that restrict the use of AI technologies for purposes other than proper ones.

WORKS CITED

First: Arabic References
- Bakr, Abdel-Gawad El-Sayed (2019), Artificial Intelligence: Its Policies, Programs and Applications in Higher Education: An International Perspective, Al-Azhar Journal of Education, Vol. 38, No. 184, Part 3, pp. 383- 432
- Eltalawy, Noha Hussein Mohamed (2021), Experts' Attitudes towards the Future of Integrating AI Applications in Integrated Marketing Communications for Egyptian Companies: A Prospective Study, Vol. 9, No. 35, Journal of Public Relations Research Middle East, pp. 71- 133.
- Hamed Khalifa, Public Relations in the Age of Artificial Intelligence, available online at https://alkhabaralyoum.com/index.php/more/tech/49455.
- Al-Khalifa, Asmaa Mustafa Helmy (2021), Artificial Intelligence for Information Retrieval: An Exploratory Study to Talk to Books App, Journal of Research of the Faculty of Arts, Menoufia University, Vol. 32, No. 124, Part 4, pp. 3- 20.
- Al-Gamaal, Rasim Mohamed (1995), Introduction to Research Methods in Media Studies, Cairo Centre for Open Education, Page 135.
- Gamoura, Samia Chehbi (2018), Artificial Intelligence Between the Reality and Hope, International Forum "Artificial Intelligence: A New Challenge for Law?", Technical and Field Study, Algeria, pp. 26- 27.
- Samir Muhammad Hussein (1995), Media Research, 2nd ed., Cairo: Alam Al-Kutub, P. 133.
- Al-Salihi, Hatem Ali Haider Muqbil (2021), Digital Public Relations: A Theoretical Review of the Concept, Emergence Factors and Challenges, Al-Hikma Journal of Media and Communication Studies, Vol. 9, No. 4, pp. 47-75.
- Al-Abd, Atef Adly (1999), mani Media and Environmental Issues, 1st ed., Cairo: Dar Al-Fikr Al-Arabi, p. 40.
- Bassiouni, Abdul Hamid (2015), Virtual Reality Technology, Sharjah, Al-Manhal for Publishing and Distribution, p. 10.
- Abdul Qader, Abdul Razzaq Mukhtar Mahmoud (2020), Artificial intelligence Applications: An Introduction to Education Development in the light of Corona Virus Pandemic (COVID-19) Challenges, International Journal of Research in Educational Sciences, Vol. 3, No. 4, pp. 171-224.
- Abd-Elmoaty, Rizk Saad (2018), Approaches to Study Digital Public Relations at Al-Azhar University, Journal of Public Relations Research Middle East, No. 20, pp. 9- 47.
- Fanur, Basmah (2022), Public Relations between Traditional and Digital Practices: A Reading of Conceptual Transformations, El-Naciriyia Journal for the Social and Historical Studies, Vol. 13, pp. 191- 221.
- Muhammad Abdul Hamid, (2000), Scientific Research in Media Studies, 1st ed., Cairo, Alam Al-Kutub, p. 158.
- Muhammad Fathi, Artificial Intelligence: An Innovator in Public Relations, available online at https://www.alkhaleej.ae/.

- Rafat, Mohamed Mustafa (2018), Public Opinion in Virtual Reality and the Power of Virtual Mobilization, Cairo, Al-Arabi for Publishing and Distribution, pp. 18-19.
- Morsi, Iman (2021), The Role of Digital Public Relations in Saudi Universities During the Corona Crisis: A Field Study on Public Relations Practitioners, Egyptian Journal of Media Research, No. 75, pp. 337-371
- Marai, Hesham Ahmed Ahmed, (2020), Applications of Artificial Intelligence in Photography, International Design Journal, Vol. 10, No. 4, pp. 75-86.
- Research and Information Centre (2021), Artificial Intelligence, Research and Studies Centre, p. 6.
- Youmna Hamdy (2022), Application of Artificial Intelligence in Developing Interior Design Operations Management, Journal of Design Sciences and Applied Arts, Vol. 3, No. 2, p. 6.
- Shabaan, Amany Abdel Kader Mohamed (2021), Artificial Intelligence and its Applications in Higher Education, Journal of Education, Vol. 84, No. 84, pp. 1- 23.
- Refaat, Mohamed Mustafa (2018), Public Opinion in Virtual Reality and the Power of Virtual Mobilization, Al-Arabi for Publishing and Distribution, Cairo, pp. 18-19.

Second: English References
- Darell Freeman (2022), Metaverse for Beginners and Advanced: A Complete Journey into the Metaverse Virtual World (Web3.0), USA, Palgrave, p. 7.
- Darell Freeman (2022), Metaverse for Beginners: An Ideal Guide for Beginners to Understanding and Invest in the Metaverse, Cryptosphere Academy, p. 10l.
- Frank, M. R., Autor, D., Bessen, J. E., Brynjolfsson, E., Cebrian, M., Deming, D. J., Wang, D. (2019). "Toward understanding the impact of AI on Labor, Proceedings of the National Academy of Sciences (PNAS), Vol. 116, No. 14, pp. 6531-6539.
- Hon, Jean Valin (2018) Humans Still Needed: An Analysis of Skills and Tools in Public Relations (Discussion paper). London: Chartered Institute of Public Relations CIPR. Available: https://newsroom.cipr.co.uk/humans-still-needed---research-project-reveals-impact-of-artificial-intelligence-on-public-relations.
- Liew, Fifi Ee En (2021) AI Disruption in Public Relations: A Blessing or A Challenge?, Journal of Digital Marketing and Communication, 1(1), Pp. 24-28.
- IT Faculty (2018) AI and the Future of Accountancy, London: ICAEW, P. 9
- Krönke C. (2019), "AI and Social Media". In: Wischmeyer T., Rademacher T. (eds) Regulating AI. Springer, Cham, p. 89
- Kurzweil, Ray (2006) The Singularity Is Near. New York: Viking Books, P. 260.
- Lynch, Chris (2018, June 6). How PR pros should prepare for AI. Ragan's PR daily. https://www.prdaily.com/how-pr-pros-should-prepare-for-artificial-intelligence/.
- Ma, Ying & Others (2020) AI powered Internet of Things and smart public service, Emerald Publishing Limited, Vol. 38, No. 1, pp.165-179.
- Rackgun Hwang, Minkyung Lee (2022) The influence of music content marketing on user satisfaction and intention to use in the metaverse: A focus on the spice model, Businesses, Vol. 2, pp. 141-155.