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ARTIFICIAL INTELLIGENCE IN BUSINESS OPERATIONS IN TERMS OF EFFICIENCY, BENEFITS AND FUTURE CHALLENGES

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Abstract: There is no doubt that the whole world nowadays witnesses a rapid growth and development in using high standard machine technologies in general and in using artificial intelligence in specific and this is in different daily activities, industries and different fields. This is due to the fact that technologies and computer machines become more dependable by human beings for their fast responsiveness, more intelligent and deep thinking. Also, those high standard computer technologies have many features that contribute in minimizing the cost of running the different business activities and the fast execution of required tasks.

Is given explanation the artificial intelligence essence, the major uses of it in different fields of industries and business operations, how it affects and facilitates the day-to-day activities across different functions. Also, discussed the advantages of using AI in business operations and the disadvantages as well; highlighting the fears and challenges that face the same.

Keywords: AI in Business, effects of AI tools, enhancing business operations through AI, risks of AI in business environment, challenges of AI tools, AI applications in business.

JEL code: M11

Research aims: to show the importance of artificial intelligence in business operations and activities and how this industry can be affected by the ultra-usage of highly advanced technologies, showing both pros and cons, challenges and to discuss some other recommendations and solutions from personal point of view.

Research Novelty: is presented in highlighting the significance of new technological trends adoptions and the challenges that may occur due to the intensive usage of AI tools and applications.

Introduction

Since the invention and occurrence of computer in 1957 as a forward development for the typing machine, the computer sciences become a major trend for the whole scientists who are specialized and care for the technological development for computer sciences in all different fields of life. Based on this fact, years after years and decades follow the others, the use of the computer sciences become necessary in different aspects of life. It becomes the basics of business activities for the small firms, for the multinational and even for the domestic companies to run their businesses.

The importance for this technological science and the significance of modern programing machines and applications is indicated in their important role in achieving and accomplishing the tasks and activities and a very fast and reliance way. Also, they are

remarkable with their smooth and multifunctioning features and characteristics.

However, there are some disadvantages and challenges that could face this rapid progress and unpredicted growth for the machine and artificial intelligence and how this technology could affect on the human being as a practical and critical part in the running business of factories, firms and companies.

Therefore, this academic article discusses the importance of the artificial intelligence on different industries and other business operations, the fears and disadvantages of this technology, and finally the challenges that could face the ultimate and the infinity use of this technology on the same field.

The article is divided into five parts. The first part concentrates on the artificial intelligence essence, importance and applications. The second indicates the efficiency driven from applying the AI technologies in different business operations. The third part focuses on how we can implement and measure AI utilization in business operations. The fourth part highlights the fears and challenges from unplanned and infinitive usage of AI. The fifth part is to conclude with some recommendations and discussion from personal point of view.

Research results

1. Artificial Intelligence: Definition, Aspects, Models and Characteristics

1.1 AI: Definition and Models: Artificial intelligence is one of the most remarkable technological inventions in the contemporary era. It's one of the modern technological development aspects for the

computer machine and the sciences thereof. Thus, it has become one of the main important basics for governments, authorities, organizations and great companies and firms for managing their businesses and running their day-to-day tasks and activities.

Since the invention of computer machines and the development of their components and technologies, the world has started to pay attention for the development of those machines and has begun to concentrate and develop the studying and analyzing of computer science technologies and tools such as: graphics, interaction between human being and computer, networks and communications engineering, software engineering, cybersecurity, storing big data, robots engineering and the artificial intelligence.

In fact, the idea has come to start in the fifteenth of the 20th century when a group of computer scientists gave the green light to work on this kind of technology as a major research field. During this period of time, there was a little interest in the artificial intelligence due to the low funding for this technology.

However, in the next century, the governments and more great companies have started to fund more and more investments in this computer science technologies in general and in artificial intelligence in specific. This is for the positive and constructive outputs they found in implementing this technology in various aspects and different fields of businesses and life.

The main aim of focusing on this technology is to make the computer and machine capable of thinking like a human being. This can be happened by inserting certain inputs and certain commands into the machines to generate and provide the required outputs.

Therefore, the most significant key pillars for the artificial intelligence are big data and processing power. The big data have many forms of drivers such as: text, sound, photos, videos and logs.

Also, there are different models of artificial intelligence. Those models are: machine learning, deep learning and transfer learning. Each of which represents a very important function in processing tasks and functions through the journey of AI activity production.

In addition to that, there are some other artificial intelligence models that carrying functions according to the kind of data they process, such as natural language processing model which is responsible for functioning texts from certain inputs to the required outputs, automatic speech recognition which is responsible for processing voice commands, computer vision technology which is responsible for processing photos and finally videos vison technology which is responsible for processing the videos.

Vivid examples for applying the artificial intelligence models on different aspects of businesses can be represented in translation, ask and answer tools, opinion analysis and chatbots as faces for the natural language processing AI technology. Also, the new passing machines available at the international airports can be considered as another aspect for using photos and videos AI technology. The passengers, while passing out across the security and passport gate, are not required to interact with a security officer or even an administrative officer, just to look at the cams on those machines and after that the machines automatically recognize the face dimensions and biometrics of individuals and match these biometrics with the big data of passengers stored at the servers at the airports.

Therefore, artificial intelligence can be defined a technology through which tasks and activities can be fulfilled without human being interference under varying and unpredictable circumstances. It has the ability to design and implement a wide range of networking and connecting many machines with different and various operational tasks and activities.

1.2 Importance and Historical Development of AI and Machine

Growth and development are the natural logic languages for any nation, country machine, science, technology and even for each individual alive in the world. Thus, the development of technology for the modern age including computer sciences and the software engineering thereof is represented in the fifth generation of the computer sciences technology which is the artificial intelligence.

And in fact, the importance of the artificial intelligence is indicated in the competitive advantages and features that characterize the AI in comparison to the last and previous generations of computer sciences. This can be simply crystal clear in the innovative ideas that can be generated for use in producing new devices, telecom equipment's and new technology products by using the artificial intelligence applications and tools. The fast progress for this technology does not stop at these points only, but also the matter is further extended to include other usages and implementations.

Also, another importance aspect of AI is that it drives economic transformation and support countries and companies to move

towards automation and innovating opportunities in their different fields of industries.

Therefore, the AI technology and applications are not used by the governments, firms, companies who are willing to develop their operating systems and software only, but the matter is also extended to include the young people who started to use those applications and tools in their studying methods. Their assignments, questionaries and homework can be further supported and accomplished by using AI.

In addition to that, the young generation has begun to depend on this new technology to achieve financial profits through the online platforms and online merchants and application by executing tasks and activities through the AI. In short, the AI technologies, tools and applications have witnesses this rapid and strong reliance for their accuracy in counting financial and logic figures, fast tasks and activities implementations and executions, deep logic analysis for data and information, fast responsiveness and reliable outputs and results.

1.3 AI Applications in Business Environments

For the implementation of AI in different business environments, as in the past, the ordinary accountant or clerk was achieving the dairy tasks and assignments through using manual tools or even when it came to a new technology, they were using Microsoft office applications such as excel and access sheets.

Consequently, the matter is become more technologically advanced for the firms and companies to adapt highly effective programs and application to run their businesses. Thus, the

programmers have started to develop a new software technology to simplify the information and data processing and make the operations more controllable and highly governed by business teams. Many examples for that software may include the establishment of oracle application, then the SAP, Microsoft platform and recently the newly end to end operations platforms that can be accomplished by more flexible features and more customized characteristics to enable firms, companies and teams to run their tasks and activities more easily and to get the best utilized outputs and results.

One of the most important businesses areas that AI applications and tools represent fundamental and essential role is the HR management. This is clear in the fact that AI tools and applications have the ability to analyze employee performance data and to identify employees' skills gaps. Thus, the reports of employees' performance data generated by the AI tools and applications could better support organizations, entities, authorities and firms to design and implement the best appropriate training models for their employees in order to get the best of employees' performance and achievements.

2. Efficiency of Artificial Intelligence in Business

2.1 General Insights

In the recent last years, many companies and organizations have started using AI tools and applications in most of their business activities and operations. This fact has been driven from many surveys and researches. One of those important researches is that of McKinsey. McKinsey findings indicate that 78% of organizations

now employ AI in many aspects of their operations as the rate has been raised from 55% in 2023 to 72% in 2024. This fact also motivates companies and organizations either governmental or non-governmental organizations to adapt AI tools and applications in their day-to-day business operations.

2.2 Enhancing Customer Experience

Customer care and customer service management is one of the most important key sections of any businesses. This is due to the fact that customer experience measurement treats customers on face-to-face basis, receive their complains, handle their technical issues and problems and persist keeping the large number of customers on company records for the maximum time range in order to gain benefits and profits from those customers to the company. Thus, it has been noticed that implementing AI in different sections of customer care management has increased that efficiency of its operations on different scales. Also, Companies leveraging personalized marketing strategies see a 20-30% increase in revenue on average. AI also allows businesses to predict customer needs, optimizing inventory levels to ensure the right products are available at the right time.

2.3 Productivity & Cost Deduction

Applying AI in production leads to high efficiency especially in the prediction of errors and identifying defects. Researches find out that AI can achieve accuracy with 99.9% in identifying production defects compared to human inspectors' accuracy; typically, 80-90%. As a result, this direction leads to cost deduction

in applying and implementing defects and errors inspectors and to overall cost deduction.

2.4 Optimization of Delivery Methods

Optimization of delivery methods can be accomplished through analysis of delivery roads, locations of warehouses and the supplier production flexibility.

2.5 Utilization of Maintenance Contracts

Also, AI tools can be used in checking the maintenance contracts and are characterized with the early detection of faultiness of devices and machines used in supply chain and so reduction of maintenance cost.

2.6 Product classification and packaging

AI technologies can support largely in monitoring goods and products in the warehouses and can also support in the classification and packaging of goods and products. Not only that, but the AI technologies are also further developed to include the manufacturing of robots that are capable of distributing products and goods inside the internal rooms and shelves in the warehouses.

3. Practical Framework for AI Implementation in Business Operations

Stage one: Identify Company Goals & Objectives:

- ✓ Specify areas needed to implement AI and automation tools;
- ✓ Evaluate each area using the following criteria;
- ✓ Business Impact;

- ✓ Data Availability;
- ✓ Complexity and Risks;
- ✓ Time Management.

Stage Two: Assess and figure out your data:
- ✓ Map out data sources for the specified areas;
- ✓ Check data quality, completeness, consistency;
- ✓ Data Control Management.

Stage Three: Select the appropriate tools and applications.
- ✓ Integrations with existing systems and workflows;
- ✓ Training Courses for non-technical staff;
- ✓ Security, rules and regulations compliance;

Stage Four: Staff and end user engagement:
- ✓ Conduct meetings and sessions to understand the processes;
- ✓ Sharing of workflows, interfaces and processes with employees;
- ✓ Provide training that focuses on how AI changes their tasks.

Stage Five: Monitoring & Improvement:
- ✓ Specify the responsible users for each AI system and its outputs;
- ✓ Monitoring of performance, errors and unexpected defects;
- ✓ Updating models and rules.

4. Challenges and Fears from Using AI Widely in Business Operations

With no doubt, the dependance on the computer sciences in general and AI machines in specific increasingly forms a disadvantage point in terms of decreasing the dependence on the human being and in turn a shortage in the employment rate for the

labors. This is due to the fact that AI technologies implemented in the machines can do and perform the same tasks and operations the human beings do. This is clear in the use of high advanced technology robots nowadays in the field of warehouses and distribution of goods and products.

Also, the technological and technical companies who are responsible for manufacturing, designing and producing AI machines and tools have to keep and store a big volume of data and information about the companies and firms which like to apply and implement the AI applications at their operating systems. Some companies fear about the future of those data and their concern is to whom those data may be seen. It's an aspect of fears that may represent a threat to the data privacy especially when it comes to the finance and contract data. Most of the supply chain information must be treated with high security standards due to competition reasons and other strategies that concern vendor management techniques.

Therefore, AI-enabled cyberattacks like deepfakes, targeted phishing and data breaches are emerging threats for large and small organizations alike. Concerns around these threats are growing, with over 55% of survey respondents believing that generative AI will ultimately give attackers a cyber advantage.45 Therefore, organizations need to stay abreast of developments in cybercriminal use of AI to preempt potential future attack vectors. For leaders to invest and innovate in AI with confidence, they also need to gain a comprehensive understanding of the cyber risks related to their adoption of AI.

Although, there are restrictions, rules and regulations on how the AI companies control vendors and client's data, there may be fear of the power of dominance of those AI companies in the field they are running applications, especially the AI tools and applications are applicable and useable for many firms producing the same products and carrying out similar tasks and activities.

Conclusion

From the above indicated literature review, we can observe that business activities and operations are widely being affected by technology, technical development, machine with highly advanced techniques and features and by AI implements and applications.

In addition to that, some suppliers, multinational companies, logistics third party operators have already begun to use AI machines and technology more widely in their day-to-day activities and operations. Also, they have started to use robots with high advanced technology in warehouse operations such as picking up goods, distributing products, classification and packing of items and products.

On the other hand, the fears and challenges that raisin from the wide usage of the AI can be simplified in the fact that AI tools and applications can simply replace the human being on all sectors of supply chain since they enjoy high advanced technologies and features. Furthermore, robots implemented with AI technology have the ability to carry out functions of the demand planning teams.

They can forecast, analyze and produce highly recommended plan for the supply chain cycle and process. Thus, same scenarios

can be accomplished in the production operations. The robot will have the capability to negotiate and place orders to suppliers, check prices, incoterms, payment terms and inspect the goods and products upon arrival.

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ԱՐՀԵՍՏԱԿԱՆ ԲԱՆԱԿԱՆՈՒԹՅՈՒՆԸ ԲԻԶՆԵՍ ԳՈՐԾՈՒՆԵՈՒԹՅԱՆ ՄԵՋ՝ ԱՐԴՅՈՒՆԱՎԵՏՈՒԹՅԱՆ, ՕԳՈՒՏՆԵՐԻ և ԱՊԱԳԱՅԻ ՄԱՐՏԱՀՐԱՎԵՐՆԵՐԻ ՏԵՍԱՆԿՅՈՒՆԻՑ

Մահմուդ Շաարավի Աբդուլազիմ
Եվրասիա միջազգային համալսարան, հետազոտող

Բանալի բառեր - արհեստական բանականություն բիզնեսում, արհեստական բանականության գործիքներ, արհեստական բանականության ռիսկերը բիզնես միջավայրում, արհեստական բանականության մարտահրավերները:

Տեղեկատվական տեխնոլոգիաները դառնում են ավելի հուսալի մարդկանց համար՝ իրենց արագ արձագանքման, ավելի խելացի և խորը մտածողության շնորհիվ: Բացի այդ, բարձրակարգ համակարգչային տեխնոլոգիաները ունեն բազմաթիվ առանձնահատկություններ, որոնք նպաստում են տարբեր բիզնես գործունեության իրականացման ծախսերի նվազեցմանը և պահանջվող առաջադրանքների արագ կատարմանը:

Մյուս կողմից, կան որոշ մտավախություններ և թերություններ այդ արագ զարգացող տեխնոլոգիաների, մասնավորապես՝ արհեստական բանականության լայն կիրառման հետ կապված: Բարձրակարգ արհեստական բանականության գործիքները կարող են վատ ազդեցություն ունենալ կյանքի տարբեր ոլորտների վրա:

Այդ ազդեցություններից մի քանիսը նեղացնում են մարդու մտածելակերպը և կարող են որոշիչ դերակատարում ունենալ արդյունաբերության լոգիստիկ շղթայի վրա:

Հետազոտությունում բացահայտվել է արհեստական բանականության էությունը, դրա հիմնական կիրառությունները արդյունաբերության և բիզնես գործունեության տարբեր ոլորտներում, թե ինչպես է այն ազդում և հեշտացնում առօրյա գործունեությունը տարբեր գործառույթներում: Նաև քննարկվել են արհեստական բանականության օգտագործման առավելություններն ու թերությունները բիզնես գործունեության մեջ՝ ընդգծելով դրանց առջև ծառացած մարտահրավերները:

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