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DEVELOPMENT OF ARTIFICAL INTELLIGENCE AND EFFECTS ON HIGH EDUCATION IN FINANCE, ACCOUNTING AND AUDITING

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Abstract: With the rapid development of artificial intelligence(AI) technology, AI is widely popularized in financial field. From one side, the economy with artificial intelligence in the future faces new requirments to young people, graduaated different degrees. From other side, AI becomes the central element of education systems and the basic tool to obtain competitive advantages on education services market.

In recent years due to the rapid development,the artificial intelligence (AI) has widely used in many aspects of financial industry. The artificial intelligence significantly impacts the activities of banking by payments and evaluation of creditworthiness, on financial market, institutions and regulation. As artificial intelligence changes every industry, it makes a significant impact in the world of accounting and audith. AI brings strong change to the entire financial industry, which creates a series of innovative financial services such as intelligent consultant, intelligent lending, monitoring and warning, and intelligent customer service as times required. AI-enabled systems for financeand accounting are the way professionals and their firms will stay competitive and attract the next generation as employees and customers.

The aim of our research is to determine main trends, challenges and opportunities in application of artificial intelligence in high education in finance, accounting and auditing, exploring financial and social benefits, prospects and threats of that process.

Keywords: artificial intelligence, high education, finance, accounting, auditin

Introduction

With the rapid development of artificial intelligence technology, AI is widely popularized in financial field. The artificial intelligence is deeply changing the decision making processes in financial institutions. From one side, the economy with artificial intelligence in the future faces new requirments to young people, graduated different degrees. From other side, AI becomes the central element of education systems and the basic tool to obtain competitive advantages on education services market.

Problem statement

Baker and Smith[2] (2019) provide a broad definition of AI: "Computers which perform cognitive tasks, usually associated with human minds, particularly learning and problem-solving". They explain that AI does not describe a single technology. It is an umbrella term to describe a range of technologies and methods, such as machine learning, natural language processing, data mining, neural networks or an algorithm.

In recent years due to the rapid development, the artificial intelligence (AI) widely uses in many aspects of financial industry. This new technology significantly impacts the activities of:

- banks - by payments and evaluation of creditworthiness,
- on financial market,
- on structure of institutions
- on the regulation .

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[2] Baker, T., & Smith, L. (2019). Educ-AI-tion rebooted? Exploring the future of artificial intelligence in schools and colleges. Retrieved from Nesta Foundation
website: https://media.nesta.org.uk/documents/Future_of_AI_and_education_v5_WEB.pdf

As artificial intelligence changes every industry and introduces also in the world of accounting and audit. AI systems will substitute accountants in some of their more routine functions as they can include in analize and management of financial issues.

AI brings strong change to the financial industry and requires creation a series of innovative financial services such as intelligent consultant, intelligent lending, monitoring and warning, intelligent broker or diller and intelligent customer service. AI-enabled systems for finance and accounting are the way professionals and their firms will stay competitive and attract the next generation as employees and customers. It strongly requires the development of new curricula – interdisciplinary between two fields – finance, accounting and auditing and artificial intelligence. It will permit new generation of proffeciaonals to work successfuly on all financial, accounting and auditing institutions and Bulgarian economy to present strongly and participates activly on European and world market.

Aim of research

The aim of the research is to determine main trends, challenges and opportunities in application of artificial intelligence in high education in finance, accounting and auditing, exploring financial and social benefits, prospects and threats of that process.

Research Methods

The achievement of key targets and realizing the main aim of the study accomplish by systematic theoretical - empirical approach. In particular, this approach is realized through following:
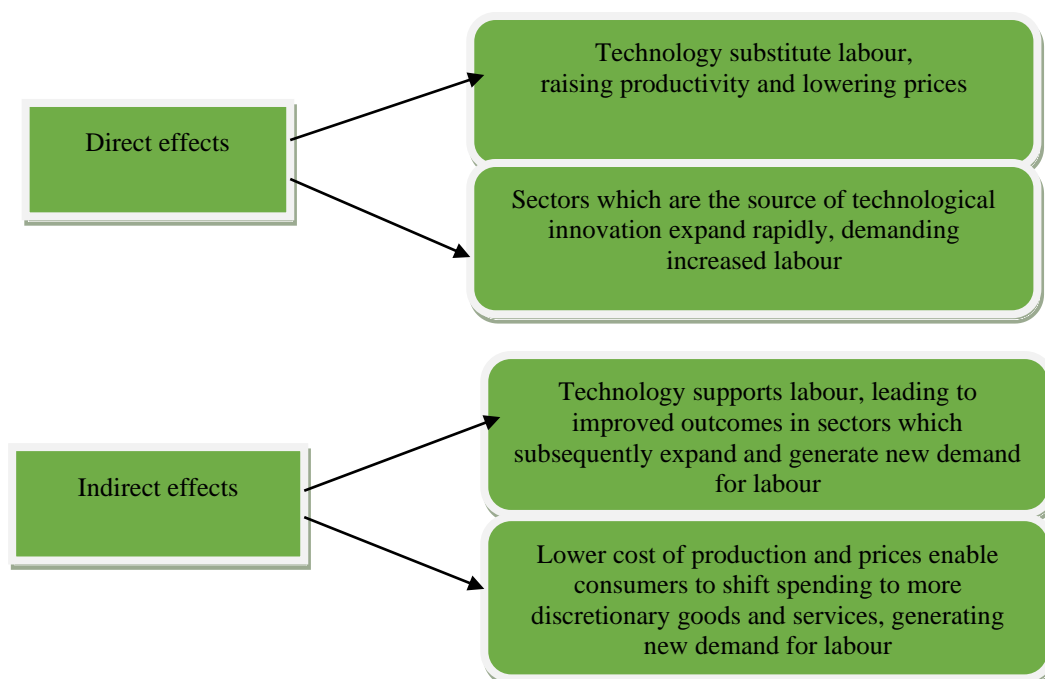
● Induction and deduction in the research the facts characterizing artiffical intelligence in financial institutions.

● Comparative analysis of Education with or without Artiffical Intelligence.

Results

1. Effects of AI on labour market

AI will affect on labour force and increases its productivity. It reduces the labour expanses per unit good or service. The mechanism of impact is presenting below:

Graph 1 Effects of AI on labour market

Source: Stewart, De & Cole[3] 2015, p. 1.

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[3] Stewart, I, De, D & Cole, A 2015, *Technology and people: The great job-creating machine*', Deloitte LLP publishings, viewed 27 March 2018, <https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/finance/deloitte-uk-technology-and-people.pdf>

2. Effects of AI on Finance

The finance industry has shown to be adapted to AI earlier compared with other industries. In the 1980s, AI became prominent in the financial world. The Expert Systems has become the participant in the sector of finance. The 90s were much more concerned with the detection of fraud. The FinCEN Artificial Intelligence System (FAIS) was one of the applications that began in 1993.

The artificial intelligence (AI) has widely used in many sectors of financial industry.

2.1. AI and banking

AI significantly impacts the activities of banking by the payments. Digital banks and loan-issuing apps use machine-learning algorithms to analyze creditworthiness with optional information to check loan eligibility and to offer customized options. (Bachinskiy 2019). Big Fintech companies have a large client base and therefore require automated client service alternatives such as chatbots. These chatbots offer immediate, real-time response. AI chatbots are useful because they deliver a 24-hour service that makes company function more secure and effective.
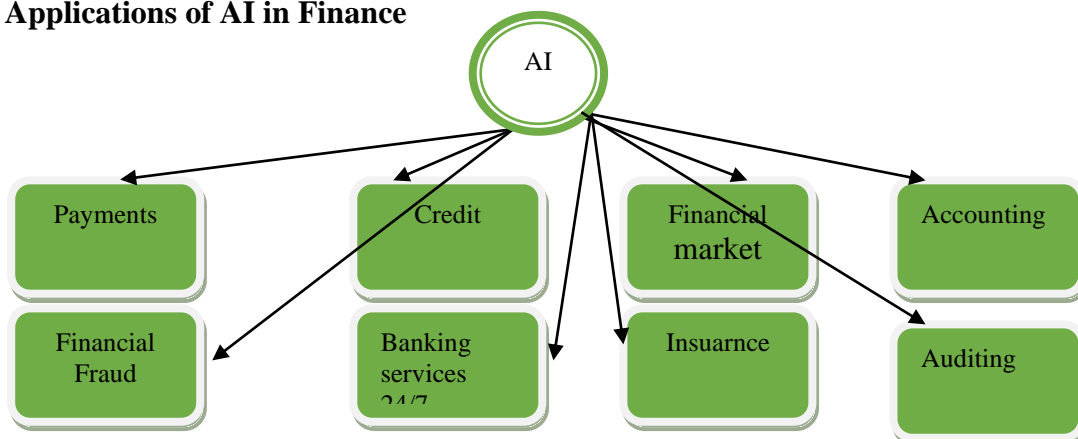
2.2. AI on financial market

"Automated Trading Systems," has become a dominant mechanism in financial market world-wide. Algorithmic trading utilizes high-speed and volume trading software programs depending upon a range of pre-established requirements such as investors rates and certain business circumstances. One important benefit of algorithmic trading is its automation of trading and its execution at circumstances considered optimum to purchase or sell.

2.3. AI and corporate finance

It's estimates of accuracy and comprehensive forecasts are focused on various factors and are essential for corporate planning. The algorithms explore risks background and recognize early indications of potential future problems.

Graph 2 Applications of AI in Finance

2.4. Economic Effects of AI on Finance

The main factor could very difficult to predict is labor productivity, because it changes anticipated. AI will also affect jobs in the future which depends on several factors. They include utilization and adoption costs of AI from one site, and from other, quantity of labor supply, quality and wages. AI and the cloud work together to calculate massive data in a very short time. AI effects calculate through time savings, expenses reduction, increased productivity and more precise outcomes. People in financial sector have become extremely tech-savvy and use AI instruments to reduce the time for services and invest their time reviewing accounts, speculating about potential results and generaly to increase the efficiency of their work.

3. AI in the education

As wrote above, AI becomes the central element of education systems and the basic tool to obtain competitive advantages on education services market. The realizion of new curricula and new programs in finance, accounting and auditing at the high school requires the usage of AI by the study.

Artificial intelligence methods were generally employed in two ways: to design and facilitate interactive learning environments that would support learning by doing, and to design and implement tutoring systems by adapting instructions with respect to the students' knowledge state. The same kind of learning **as a results have following changes:**

- **Differentiated and individualized learning** - the idea of customizing curricula for every student's needs is not via additional titorials; via AI-powered machines.

- **Universal access for all students -** artificial intelligence tool scan help make global classrooms available to all including those who speak different languages or who might have visual or hearing impairments.

3.1. AI by the development of new curricula

The new needs of economy require acquired new knowledge and skills.A new curriculum plays a critical role in efforts to make future workforces AI-ready. Bridging the AI skills gap goes beyond the adoption of increasingly powerful technologies to facilitate learning. It also means rethinking the content and methods used to deliver instruction at all levels of education. In 21st century' educational programs need to bring skills that would allow learners to identify and solve problems using computing techniques, methods and technologies. In the context of a near future society empowered by AI, it is important to develop new skills. The objective is to reveal the power of digital competencies that can analyse, use and decode Artificial Intelligence as a powerful technology, to which we must necessarily think in a context to understand its scope, limitations, potential and challenges.

3.2 New types of knowledge and skills developed by AI:

- Formulating problems in a way that enables us to use a computer and other tools to help solve them;
- Logically organising and analysing data;
- Representing data through abstractions such as models and simulations;
- Automating solutions through algorithmic thinking (a series of ordered steps);
- Identifying, analysing and implementing possible solutions with the goal of achieving the most efficient and effective combination of steps and resources;

Building AI expertise through higher education and research is one of the main approaches used by governments to address their respective skill gaps. In an effort to boost their respective capacities in AI and become leaders in the field, many countries are seeking to make professions in AI research and practice more attractive.

3.3. AI challenges in the education

First challenge: a comprehensive public policy on AI for sustainable development. The education sector is both customer and actor in the face of sweeping developments in AI-powered technology. In this regard, the education component becomes key when countries develop national AI strategies.The public policies will not be able to cope with the speed of innovation in the field of AI with its traditional institutions. New agencies and institutions within the public sector are key to creating the AI intellectual and material context of sustainable development.

Second challenge: Preparing teachers for AI-powered education and preparing AI to understand education. There are no indications of a system-wide adoption of AI-based applications for teaching and learning or system management, even though the educational technology industry has yet to cease production on new developments. The future professions will be transformed into some kind of professional hybrid due to the interaction of finance, technology and information skills and competences.

Conclusion

With the rapid development of artificial intelligence technology, AI is widely popularized in financial field. This new technology significantly impacts the activities of banks - by payments and evaluation of creditworthiness, on financial market, on structure of institutions, on the regulation.

From one side, the economy with artificial intelligence in the future faces new requirments to young people, graduaated different degrees. It strongly requires the development of new curricula – interdisciplinary between two fields – finance, accounting and auditing and artificial intelligence. The new needs of economy require acquired new knowledge and skills.A new curricula plays a critical role in the efforts to make future workforces AI-ready. From other side, AI becomes the central element of education systems and the basic tool to obtain competitive advantages on education services market. The same kind of learning **as a results have some changes: differentiated and individualized learning and universal access for all students.** By this way, economic results of AI in the education in Finance, Accounting and auditing will bring higher productivity, increasing quality of labor supply, higher wages, reducing expences and more fast development of innovative sectors of economy.

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