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Artificial Intelligence (AI) in the Financial Sector

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This study aims to see the development of research on the topic of "AI on Finance" and research plans that can be carried out based on journals published on the theme. This research uses qualitative method with bibliometric analysis approach. The data used is secondary data with the theme "AI on Finance" which comes from the Dimension database with a total of 127 journal articles. Then, the data is processed and analyzed using the VosViewer application with the aim of knowing the bibliometric map of research development "AI on Finance" in the world. The results of the study found that in bibliometric author mapping the authors who published the most research with the theme "AI on Finance" were Bhattacharjee A; Al-Gasaymeh A.S; Arakpogun E.O; Wang X; Sharma S; Arner D.W; Yang J; Krishna S.H; Khan S; Singh R; Bansal R; Raffinetti E; and Marwala T. Furthermore, based on bibliometric keyword mapping, there are 5 clusters with the most used words are development; challenge, accounting, opportunity, economy, blockchain, and use. Then, the research path topics related to AI on Finance are AI in Islamic Finance, Enterprise AI Development in Finance, AI in Behavioral Finance, Green Finance and AI, and AI Access in Accounting.

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INTRODUCTION

The development of Artificial Intelligence (AI) has been a long and evolving process, which began in the mid-20th century. The term "artificial intelligence" was coined by John McCarthy at a conference at Dartmouth College in 1956, marking the beginning of the scientific field of AI (Xu et al., 2021). Initially, AI research focused on automated reasoning and applied AI to prove mathematical theorems and solve algebraic problems. The 1980s saw a resurgence of AI research, with the development of expert systems that summarized a set of basic rules from expert knowledge to help non-experts make specific decisions (Xu et al., 2021). However, these systems gradually showed some drawbacks, such as privacy technology, lack of flexibility, poor flexibility, and expensive maintenance costs (Xu et al., 2021).

Furthermore, Xu et al (2021) explained that in the 2000s, AI research turned to machine learning techniques, which had an impact on various basic sciences, including mathematics, medical science, physics, and so on. The goal of AI is to enable machines to mimic human thinking and behavior, including learning, reasoning, prediction, and so on. AI refers to the simulation of human intelligence by a system or machine. The development of AI includes perceptual intelligence, cognitive intelligence, and learning intelligence (Xu et al., 2021). Boucher (2020) explains that AI is an umbrella term that covers a variety of technologies and applications that have little in common other than visible intelligence. As AI technology develops, it is expected to have an impact on global productivity, equality and inclusion, environmental impact, and several other areas, both in the short and long term (Vinuesa et al., 2020).

The rapid development of AI needs to be supported by the necessary regulatory insights and oversight of AI-based technologies to enable sustainable development (Vinuesa et al., 2020) in all aspects of life. For example, research by Basu et al (2020) explains that AI is capable of transforming medical science and its applications include matching patient symptoms with the right doctor, patient diagnosis, patient prognosis, drug discovery, assistant bots that can translate languages, copy notes, and organize images and files. Then, in economics, AI is considered a general-purpose technology that can impact economic outcomes within and across countries (Agrawal et al., 2019).

The role of AI in economics includes replacing human predictions and complementing other skills such as human judgment. AI can improve the decision-making process by analyzing data and providing insights that can lead to better economic outcomes. In addition, AI can help predict human behavior in various economic situations, thus contributing to a deeper understanding of economic choices (Agrawal et al., 2019). IMF research (2023) explains that specifically, AI is revolutionizing the financial sector by automating tasks, improving risk management, and enhancing decision-making processes. For example, AI algorithms are used for credit card applications, fraud detection, and ensuring regulatory compliance in banking institutions. AI can help prevent financial breaches and improve financial stability by analyzing large amounts of data to identify patterns and anomalies.

This indicates that the utilization of AI in several aspects of life such as the economy, especially finance, provides great sustainable potential. Belhaj & Hachaichi's (2021) research shows that AI drives business model innovation, improves customer relationships, and promotes customized digital finance, leading to improved service efficiency and cost savings. The application of AI in finance is expected to drive competitive advantage for financial companies by increasing efficiency, reducing costs, and improving profitability through improved decision-making processes, automated execution, and enhanced risk management. In addition, AI enables financial institutions to offer consumers higher quality products and services, including customization and personalization, which ultimately benefits customers by improving their experience and reducing costs.

Shiyyab et al (2023) added that AI in finance can improve labor productivity, operational workflow efficiency, and the development of new revenue sources, thereby positively impacting financial performance. AI also provides opportunities for better and more customized services, cost reduction, and the development of new business models, transforming the financial sector and offering significant potential for future technological innovation (Bredt, 2019). Nonetheless,

in some cases, the application of AI in finance still faces a number of challenges. As stated by Garcia (2023), AI systems handle sensitive financial information, raising concerns about data privacy and security. There is a risk of vulnerability to cyberattacks or data breaches, which could jeopardize the integrity of financial records and result in financial losses. In addition, while AI can automate financial processes and improve efficiency, over-reliance on AI systems can pose challenges when these systems experience technical issues or malfunctions. This reliance may lead to difficulties in manually handling financial tasks or delays in the decision-making process. The application of AI in finance may also raise ethical considerations. AI algorithms are built on training data, and if that data is biased, the results can be discriminatory. For example, a biased AI system used to determine loan eligibility based on historical data could lead to unfair lending practices and discrimination.

Furthermore, a study by Hua et al (2023) emphasized that AI systems can introduce errors and inaccuracies, especially in generating content such as abstracts and scientific references. These errors may arise from hallucinations, where the output produced by AI deviates from its training data, resulting in misleading information. Therefore, it is important to see the extent of the *current* development of *AI on Finance* through research, and one method that can be used to see the development of research is bibliometrics using VosViewer. The method is able to create and display author journal maps and research paths based on co-citation data or keyword maps based on co-incidence data.

Some studies that examine related to *AI on Finance* include Ahmed et al (2022) reviewing artificial intelligence (AI) and machine learning (ML) literature in finance using bibliometric analysis. The results revealed an upward trend in publication trends starting in 2015 and found applications of AI and ML in bankruptcy prediction, stock price prediction, portfolio management, oil price prediction, anti-money laundering, behavioral finance, big data analysis, and blockchain. In addition, the United States, China, and the United Kingdom are the three main contributors to the literature.

Goodell et al (2021) examined artificial intelligence (AI) and machine learning (ML) in finance with bibliometric analysis. The results of this study concluded that the thematic structure of AI and ML research in finance for 1986-April 2021. By uncovering nine (co-cite) and eight (bibliometric couple) specific finance clusters applying AI and ML, it further identifies three roughly equivalent groups of finance scholarship for both forms of analysis namely portfolio construction, valuation, and investor behavior, financial fraud and distress, and sentiment inference, forecasting, and planning.

Chen et al (2023) focused on explainable artificial intelligence (XAI) in finance. The results showed an increase in publications after 2013. Early XAI research had a significant and lasting impact, shifting the research focus from traditional finance research to inclusive finance. XAIs have diversified financial capabilities, and non-XAIs seek interpretable solutions for improvement. Biju et al (2024) surveyed the extant literature on machine learning, artificial intelligence, and deep learning mechanisms in finance using bibliometric methods. The results found an increasing trend of publications in these research areas, with little concentration on the finance domain. Institutional contributions from the US and China make up the bulk of the literature on the application of ML and AI in finance. The analysis of this research identified emerging research themes, and the most futuristic research theme is ESG assessment using ML and AI. However, the research also found a lack of empirical academic research with critical assessment of advanced algorithmic-based automated financial technologies. There are severe constraints in the prediction process using ML and AI due to algorithmic bias, especially in the areas of insurance, credit scoring, and mortgages.

Other relevant research includes Kumar et al (2023) characterizing the applications and benefits of integrated AI and blockchain platforms in various business verticals. Nica et al (2024) dynamic field of fuzzy logic and artificial intelligence (AI) in financial analysis from 1990 to 2023 by bibliometric analysis. Elouidani & Outouzzalt (2022) investigated the role of emerging artificial intelligence techniques in supporting sustainable finance, assessed their progress, and described research trends over the past decade using bibliometric analysis. Janková (2021) explores the main areas of research, development trends and provides a systematic overview of

publications in the field of artificial intelligence in financial markets. Agustí & Orta-Pérez (2023) reviewed and expanded knowledge regarding Big data and artificial intelligence research in accounting and auditing, to describe the evolution of publication activity, and to identify the most representative authors and journals.

This research was conducted to complement existing research and fill the gaps of previous research and to expand the literature related to *AI on Finance* through the research path. Specifically, the purpose of this research is to see the development of "*AI on Finance*" research around the world published by journals with this theme and see future research opportunities by formulating a research agenda.

METHOD

In this study, various scientific journal publications related to the theme "*AI on Finance*" around the world were used as data sources. Data is collected by searching for journal publications indexed in the Scopus database using the keyword "*AI on Finance*". After that, scientific articles or journals that are relevant to the research theme will be selected based on the publication data that has been collected. Journals equipped with DOI are the criteria in the screening process and data processing using software. There are 127 journal articles published from within the research theme "*AI on Finance*". The development of publication trends related to the research topic was analyzed using VOSviewer software, which can generate bibliometric maps and allow for more detailed analysis.

In order to build the map, VOSviewer uses the abbreviation VOS which refers to Visualizing Similarity. In previous studies, the VOS mapping technique has been used to obtain bibliometric visualizations which are then analyzed (Rusydiana, 2019). Furthermore, VOSviewer is able to create and display author journal maps based on co-citation data or keyword maps based on co-incidence data. Therefore, this study will analyze journal maps related to "*AI on Finance*", including author maps, and keywords which are then analyzed for research paths that can be carried out in the future through clusters in *keyword mapping*.

This research uses a descriptive qualitative approach with meta-analysis and descriptive statistical literature study based on 127 journal publications that discuss the theme of "*AI on Finance*". Meta-analysis is a method that integrates previous research related to a particular topic to evaluate the results of existing studies. Furthermore, the qualitative method used in this research is also referred to as a constructive method, where the data collected in the research process will be constructed into a more understandable and meaningful theme. The sampling technique used in this research is purposive non-probability sampling method, which aims to fulfill certain information in accordance with the desired research objectives.

RESULT AND DISCUSSION

This research discusses "*AI on Finance*" by utilizing 127 publications of journal articles indexed in Dimension. Bibliometrics is a method used to measure and evaluate scientific performance by taking into account factors such as citations, patents, publications, and other more complex indicators. Bibliometric analysis is conducted to evaluate research activities, laboratories, and scientists, as well as the performance of countries and scientific specializations. Some of the steps in bibliometric analysis include identifying the background of the research, collecting the databases to be used, and determining the main indicators to be used in the research.

This section will deepen the meta-analysis results by showing a visual mapping chart depicting 127 journals related to "*AI on Finance*". In this study, mapping is done by analyzing keywords and important or unique terms contained in journal articles. Mapping is a process to identify knowledge elements, configurations, dynamics, dependencies, and interactions among these elements. The results of network visualization of 127 journals with the theme "*AI on Finance*" will be explained in more detail in the next section.

Bibliometric Author Mapping

Using bibliometric analysis using VOSviewer software, a mapping of authors contributing to the field of "*AI on Finance*" is obtained. The resulting image provides a visual

representation of the mapping, the larger and brighter the point marked in yellow, the greater the number of journal publications related to the theme "*AI on Finance*" that have been published by that author.

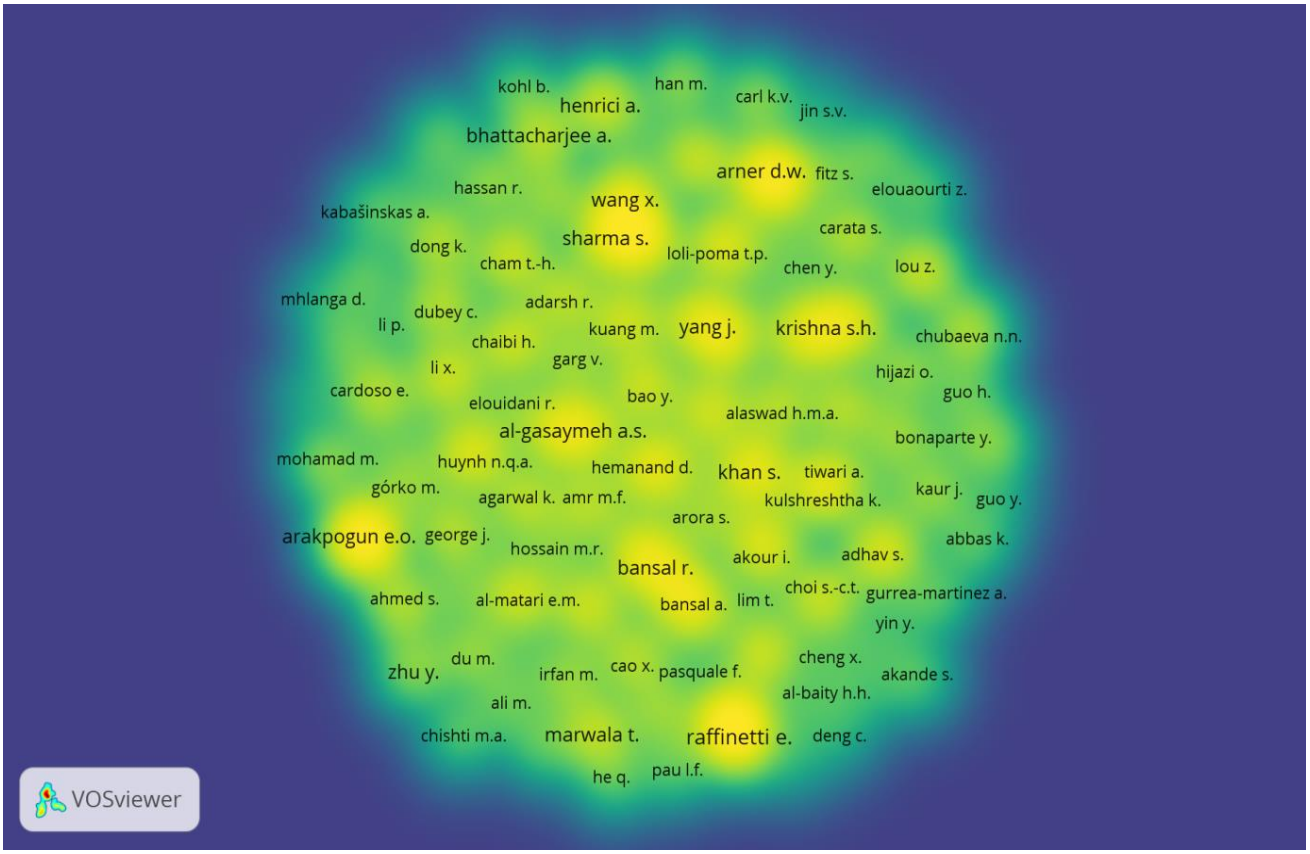

Figure 1. Author mapping

The figure above explains that the cluster density in the bibliometric map depends on the intensity of the yellow color shown. And the yellow color on the map depends on how many items are related to other items. For this reason, this section is very important to get an overview of the general structure of the bibliometric map that is considered important to analyze. From this, it is possible to identify the authors who publish the most works.

In general, each author or researcher has different tendencies in each publication of their work. On some occasions, an author appears as a single author, but on other occasions the author may co-author with other authors or researchers, so this will affect the cluster density and some clusters show different densities. However, authors who have a large enough cluster density identify that these authors have published the most research *on the* theme of "*AI on Finance*", when compared to authors whose cluster density is lower, so the results found can be a reference for other researchers in the future. From the analysis, it was found that the authors who published the most publications related to "*AI on Finance*" included Bhattacharjee A; Al-Gasaymeh A.S; Arakpogun E.O; Wang X; Sharma S; Arner D.W; Yang J; Krishna S.H; Khan S; Singh R; Bansal R; Raffinetti E; and Marwala T.

Research Map

The figure below describes the trend of keywords appearing in research on the theme "*AI on Finance*" and the larger shapes are the most used words in journal publications *on the* theme "*AI on Finance*".

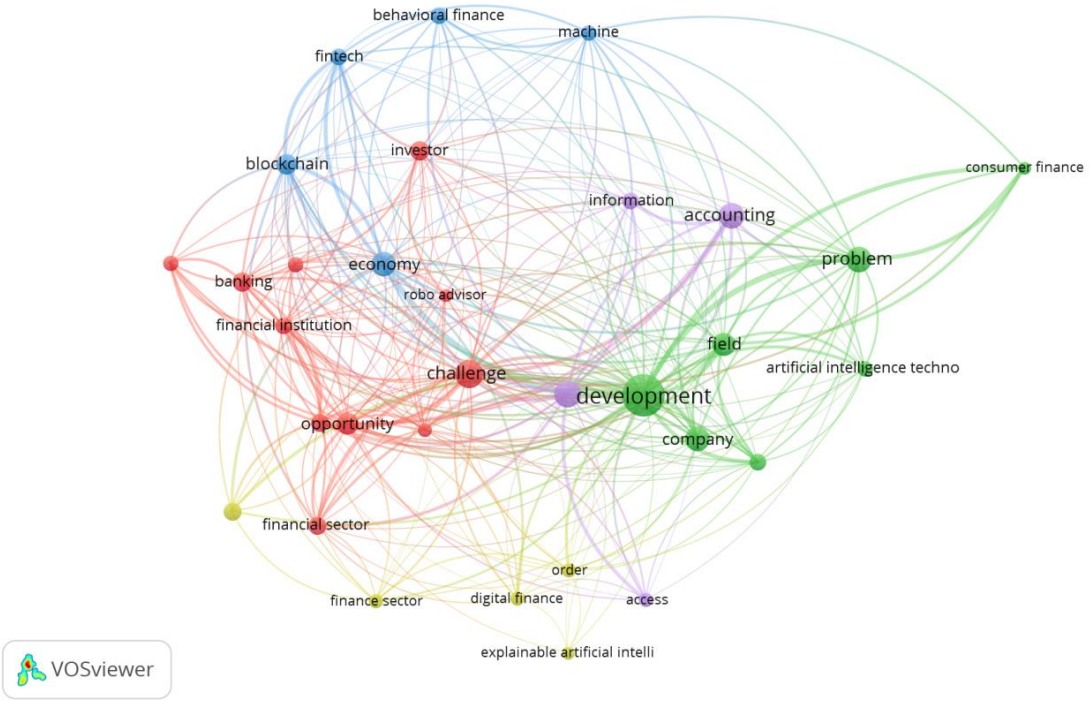

Figure 2. Research cluster

As for the mapping, the keywords that appear most in the publication "*AI on Finance*" include development; challenge, accounting, opportunity, economy, blockchain, and use, which are then divided into 5 clusters, as follows:

Table 1. Research map

Cluster	Keywords
Cluster 1 (11 items)	AI technology, banking, challenge, financial industry, financial institution, financial sector, investor, islamic finance, opportunity, robo advisor, solution
Cluster 2 (7 items)	Aartificial intelligence technology, company, consumer finance, development, enterprise, field, problem
Cluster 3 (5 items)	Behavioral finance, blockchain, economy, fintech, machine
Cluster 4 (5 items)	Digital finance, explainable artificial intelligence, financial secor, green finance, order
Cluster 5 (4 items)	Access, accounting, information, use

Research maps that can be created based on 5 *keyword mapping clusters,* namely:

Cluster 1: AI in Islamic Finance

A number of relevant studies include research from Ahmad et al (2024) investigating the impact of AI-based Chatbots on the value and profitability of Islamic financial institutions (IFIs) in OIC countries. The global Islamic finance industry has experienced significant growth in recent years, making Islamic financial institutions (IFIs) a leading player in the international financial landscape. To maintain competitiveness and sustainability, IFIs must embrace innovation and find ways to maximize their performance. The results showed a positive impact of Chatbot on Return on Assets (ROA), Return on Equity (ROE), and Tobin's Q (TBQ). Furthermore, the analysis showed that variables such as Gross Domestic Product (GDP), institution size (SIZE), and age (AGE) showed a positive relationship with the value and profitability of IFIs. In contrast, the study identified the Consumer Price Index (CPI) to have a negative influence on the value and profitability of IFIs, indicating the

potential challenges posed by inflationary pressures. IFIs may consider investing in the development and implementation of advanced AI technologies to improve overall profitability.

Tayachi et al (2022) analyzed and visualized the growth and trends of scientific research on the application of AI in Islamic banking and finance. Recent years have seen a dramatic growth in the number of scholarly scientific papers dedicated to the topics of Artificial Intelligence (AI), banking, and finance. With the development of scientometric tools, it is now possible to map, visualize, analyze, and assess scholarly activity in various fields of engineering and social sciences including Islamic banking and finance. The results concluded that the five most active countries in terms of publications are Malaysia (117 documents), Indonesia (89 documents), the United Kingdom (36 documents), the United States (24 documents), and Saudi Arabia and Bahrain (24 documents each). The International Islamic University Malaysia and the University of Indonesia are the top active institutions, while the largest source of funding comes from the Malaysian Ministry of Higher Education.

Chowdhury & Uddin (2021) discuss the potential benefits and challenges of implementing artificial intelligence (AI) in the Islamic finance sector. AI has the ability to improve service quality and reduce costs, but there are also challenges in its application. This research highlights AI technologies used in conventional financial institutions and Islamic financial institutions and emphasizes the need for IFIs to develop AI strategies to remain competitive in the digital world. Sarea et al (2021) explored the use of artificial intelligence in Islamic finance, specifically for risk management purposes. The research discusses various techniques and applications, including the use of AI to combat financial crime. The research also highlights the potential of AI to improve Shariah-compliant services in the industry.

Other relevant research includes Abbas & Hafeez (2021) exploring the potential impact of Artificial Intelligence on Islamic finance, based on expert opinions from various countries. Sarea et al (2021) explored the benefits of AI in the Islamic finance sector, including cost reduction, increased transparency, and customization for modern customers. Rabbani et al (2022) explored the ethical issues surrounding the use of Artificial Intelligence (AI) in the banking and finance industry, and proposed solutions based on Shariah principles. Khan & Rabbani (2020) proposed an AI-based interactive chatbot, called CaIFE, as an expert on Islamic finance and banking. Khan & Rabbani (2021) proposed an AI and NLP-based chatbot for Islamic banking and finance, which aims to enhance customer engagement and provide real-time Islamic financial advice based on Shariah principles. Rahim et al (2018) explored the use of artificial intelligence (AI) and smart contracts in Islamic finance.

Cluster 2: Enterprise AI Development in Finance

Research on this topic specifically has not been found. A number of relevant studies include Zhang (2021) solving the problem between corporate GDP development and green protection and analyzing the impact of green business development policies on China's corporate GDP. The results show that China's green enterprise development has achieved remarkable development achievements. The average growth rate of China's green development GDP in recent years has begun to significantly exceed the average growth rate of green GDP during the same period. The average annual growth rate of the total economic growth of green environmental protection GDP enterprises has reached 11.58%, exceeding the average growth rate of green GDP economy of the same period by 0.12%. Chinese enterprises have also achieved impressive corporate achievements after the implementation of the national guidelines for green development. For the first time in China's 31 inland provinces, municipalities and autonomous regions, chemical enterprises have achieved green production, and the average GDP growth rate has reached 8.75% for the first time.

Yubo (2021) explains that innovation in corporate financial management is carried out in machine technology and artificial intelligence. With the development of economic globalization, competition between companies is increasing and has become commonplace. As one of the main value-added tools, financial management has improved its position in business management. Traditional financial management is difficult to keep up with the pace of modern enterprise management,

which to a large extent hinders the effective development of enterprises. Therefore, under the current macroeconomic background, the need to study financial management innovation has become more urgent.

Dong (2018) analyzed the concept of artificial intelligence technology, studied the characteristics of artificial intelligence technology in corporate financial management, and explored the application of this technology in financial management. With the development of science and technology, artificial intelligence is gradually approaching our vision. In order to adapt to the development of society, enterprises gradually introduce new technologies to make their management more modern. The financial department in the enterprise is the core of development. Therefore, some companies have introduced artificial intelligence technology in the finance department to improve traditional financial work. Since artificial intelligence technology is an advanced technology in today's society and world, the research and development of this technology has important significance.

Cluster 3: AI in Behavioral Finance

Singh et al (2020) explored the application of artificial intelligence to behavioral finance, discussing its advantages and disadvantages as well as its potential impact on the economy and future developments. By using AI in behavioral finance, accuracy can be improved and psychological biases can be reduced. explains the notion of artificial intelligence and its advantages and disadvantages and furthermore, the notion of behavioral finance is considered in such a way as to provide clarity to the topic. Artificial intelligence is also known as machine learning as it deals with the work to be done by machines instead of manually by humans. Furthermore, this study includes the interaction of behavioral finance and artificial intelligence (AI) in the future when AI will be fully utilized for workers and their jobs for the economy and development in the future. With the use of artificial intelligence in behavioral finance, the results will be more accurate because with the use of machines, psychological bias can be reduced and accuracy will increase.

Ben-David et al (2021) examined AI and behavioral finance to reduce overdraft fees for users of personal financial management applications. The results of the study through AI algorithms developed by Mint (a personal finance management app operating in the United States and Canada) had a tendency towards overdrafts being sent alert notifications to test the efficacy of various framings in reducing the amount of overdraft fees. Sending reminders proved effective, and the impact was significantly increased by simplifying the message. Negative framing on the simplified version resulted in greater engagement than positive framing or calls to action. Significant impacts were obtained mainly in the population with medium to high annual income, i.e. in the 50-90 decile.

Shanmuganathan (2020) discusses the impact of artificial intelligence on financial behavior and the rise of robo-advisors in the financial services industry. The research presents case studies on the use of robo-advisors in investment decision-making, highlighting their effectiveness in generating reliable portfolios based on investor behavior. The research also discusses the shift to online and automated investment platforms, driven by a new generation of clients who prefer active control over their investments. Königstorfer & Thalmann (2020) discussed the potential application of artificial intelligence in commercial banks and the challenges of its implementation. The use of AI in commercial banking can improve processes, enhance security, and target customers more effectively, but there are concerns regarding technological superiority, user acceptance, and privacy.

Cluster 4: Green Finance and AI

Hemanand et al (2022) explored the use of intelligent models to analyze green finance for environmental development in the context of artificial intelligence. Green finance, which involves investing in sustainable projects and policies, plays an important role in creating a sustainable environment. The proposed maximally filtered financial graph algorithm has shown higher accuracy compared to neural models in analyzing green finance. Peng et al (2023) examined the coordination between green finance and the real economy in Chinese provinces and found that only 7 out of 30 provinces were in a coordinated state. The study also showed that artificial intelligence (AI) can directly and indirectly promote coordinated development by

overcoming information asymmetry and improving institutional and technological levels. The results suggest that increased investment in AI research and development, AI talent, and AI infrastructure can further enhance this impact. The study concludes with four policy recommendations to enhance the application of AI in economics and finance.

Jangid & Bhardwaj (2024) examine the relationship between artificial intelligence (AI) and green finance (GF) and how the use of blockchain and fintech can increase investor confidence in GF instruments. Green finance represents a way to address issues related to climate change and help achieve sustainable development goals (SDGs). Investor confidence is critical to the growth of any financial instrument. The introduction of blockchain and fintech in gre en financial instruments helps gain investor confidence. The results concluded a positive correlation between AI and GF, indicating that the application of AI can help investors diversify their portfolios and issuers to issue AI-powered GF instruments.

Trukhachev & Dzhikiya (2023) examined economic development and environmental management in the AI era based on green finance. Green finance, which is driven by the Sustainable Development Goals (SDGs) set by the United Nations in 2015, encompasses a wide range of financial transactions that adhere to environmental, social, and governance (ESG) principles. These include government subsidies, private investments, loans, charitable contributions, and consumer payments for goods and services. Governments around the world have adopted national strategies to decarbonize their economies, while businesses are increasingly incorporating ESG principles into their operations. Civil society and consumers are also fostering environmentally responsible communities, contributing to the development of green practices and overall sustainability.

Kuang et al (2024) examined the relationship between industrial AI and green finance in ten leading countries in AI. The results concluded that industrial AI improves green finance in certain data distribution segments across countries. Ramzani et al (2024) compared the impact of AI-driven green finance strategies on renewable energy investments in Denmark and Germany. The results show that these strategies have led to significant improvements in renewable energy production, and Denmark is a potential model for continued progress. Germany's strong energy infrastructure and its correlation with green economy methods also highlight their effectiveness. Adam et al (2024) introduced a new technique, OFPSVNS-FCPGF, to predict sustainable financial crises and promote green finance using advanced AI-based technology. The technique combines Z score normalization and locust optimization algorithm to improve accuracy. The results show significant results in the green finance sector.

Cluster 5: AI Access in Accounting

Zhang et al (2020) reviewed the impact of technology, specifically big data, machine learning, artificial intelligence, and blockchain, on the accounting profession. The research discusses the changes and challenges faced by accounting professionals and educators, including the increasing demand for IT professionals with accounting experience. It also explores how these developments will affect the desired capabilities of accounting graduates and suggests ways for higher institutions and graduates to adapt to these changes. Han et al (2023) surveyed published works on how blockchain technology will impact accounting in general, but AI-powered auditing in particular. The results summarized four themes that emerged from the literature focusing on how blockchain technology has changed record-keeping in accounting: the event approach to accounting; real-time accounting; triple entry accounting and continuous auditing.

Dongre et al (2020) explain the relationship between Artificial Intelligence and accounting systems. The main purpose of this research is to develop concepts and understanding of artificial intelligence. Artificial Intelligence (AI) is a technological term that means making machines intelligent. It is a system designed by humans to work intelligently. It is developed mainly to improve learning and problem-solving capabilities. AI plays an important role in accounting systems to efficiently manage accounting work in organizations. In the accounting process, analyzing and interpreting data is one of the complex tasks for large organizations, and the use of AI technology provides high positive results such as increased productivity, improved accuracy, reduced costs, and time.

Mihai & Duțescu (2022) explored the potential adaptation of artificial intelligence solutions in accounting. Artificial intelligence solutions do not only exist in large companies, but a new trend is to start changing the accounting profession also in small and medium-sized companies. To accelerate the period in which they will have access to artificial intelligence solutions, artificial intelligence needs to be offered in a more accessible form. This research assesses the effects of cloud computing on the accounting profession, and the potential role of this profession in implementing smarter solutions, as well as its main advantages and disadvantages to understand the reasons for the high interest in migration to cloud computing, especially during the COVID-19 crisis.

Bako & Tanko (2022) evaluated the place of Artificial Intelligence in accounting. The results found that Artificial Intelligence improves company operations. Although it cannot completely replace the role of accountants. However, it will reduce the demand for many accountants. It will have a positive effect, and if utilized correctly, AI and automation can significantly improve how Accountants work as well as the services they provide to clients. This reduces safe time and reduces expenses. Yi et al (2023) describe the challenges and opportunities of AI in accounting and finance. The rapid expansion of artificial intelligence (AI) technology presents new technical solutions to traditional accounting and finance problems. Nonetheless, scholars in accounting and finance often face difficulties in navigating the vast and complicated AI knowledge domain and its growing literature. This paper discusses conventional accounting and finance problems and their requirements for AI techniques, informs accounting and finance researchers about the potential of AI, presents various categories of AI applications, explores recent research on AI solutions to conventional problems, and highlights emerging trends and possible research directions.

CONCLUSION

This research aims to find out the extent of the development of research themed "*AI on Finance*" in the world. The results of the study show that the number of research publications related to "*AI on Finance*" there are 127 journal articles indexed by Dimension. Furthermore, based on the results of the analysis on bibliometric author mapping shows that Bhattacharjee A; Al-Gasaymeh A.S; Arakpogun E.O; Wang X; Sharma S; Arner D.W; Yang J; Krishna S.H; Khan S; Singh R; Bansal R; Raffinetti E; and Marwala T are the authors who do the most publications with the theme "*AI on Finance*". Furthermore, in the development of research related to "*AI on Finance*" based on bibliometric keyword mapping, it is divided into 5 clusters with the most used words are development; challenge, accounting, opportunity, economy, blockchain, and use. Based on frequently used keywords, it can then be grouped into 5 *research map* clusters with topics that discuss *AI in Islamic Finance, Enterprise AI Development in Finance, AI in Behavioral Finance, Green Finance and AI,* and *AI Access in Accounting.*

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