BIRZEIT UNIVERSITY

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Artificial Intelligence for Business Administration (BUSA4373)

Course Project

"AI Solution in Financial Management Software"

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1. Executive Summary

1.1. Brief on SAP company

SAP company was founded in 1972, it was called System Analysis Program Development. Later abbreviated to (S-A-P), It is headquartered in Walldorf, Germany.

The SAP corporation seeks to assist other businesses and organizations in operating financially, adapting consistently, and expanding sustainably. through creating business-oriented software solutions. Every business process may be mapped and built using industry solutions, platforms, and technologies, as well as standard applications. Purchasing of raw materials, production, and customer satisfaction are all tracked by the program, which gathers and analyses data on a single platform. Companies may analyse and effectively design the complete value chain with the aid of SAP solutions, which can be deployed at a user's site or utilized through the "SAP S/4HANA" Cloud. Forecasts may be made using SAP solutions for things like when a machine needs to be fixed or how sales will change over the following six months.[1]

Additionally, SAP assists clients in smoothly fusing operational data on business operations with experience data on emotional variables, including customer feedback and purchase experiences. As a result, businesses are better equipped to comprehend and serve their consumers.[1]

1.2. Brief on AI in Financial Management

The AI is very helpful in the financial management such as grow the business with a future vision by a business model innovation can bring new growth, increased cash flow, and continuous revenue streams.it also can help us to Gain efficiency and control cost through automation and it can make easier for us to report every aspect of your business with sustainability in mind.[2]

There are many programs in the financial management department like, financial planning and analysis, accounting and financial close, tax management, treasury management, quote-to-cash management and governance, risk, compliance (GRC), and cybersecurity.

1.3. AI concept in General.

Artificial intelligent (AI) can be defined by the ability of machine to mimic human intelligent. The AI intelligent come from the analysing pattern generated from sentiment.

The AI is generated from two essential concepts the first one is the machine learning (ML), which is a concept of creating smart intelligent machines. The second one is the

deep learning (DL) which is the primary part of making decision, for example if we have a picture the DL will convert the picture to pixels and start compare every pixel individually to figures that already the AI know it and analyse it before in the learning steps. This comparison happens according to analysis based on nodes and layers.[3]

There are three types of ML problem, the supervised ML problem which solve the structure data. Also, we have the unsupervised ML problem, which work with the unstructured data. Finally, the reinforcement which help to improve the AI by taking the feedback from the users.[3]

1.4. AI and Economic growth

Mihir Shukla, a digital entrepreneur, said at the 2023 World Economic Forum: "People keep saying AI is coming, but it is already here". Over the past ten years, the usage of artificial intelligence (AI) for routine jobs has grown significantly. ChatGPT, a product of OpenAI, is a shining example of this, with its popular generative AI being employed by more than a billion people for activities as varied as writing and coding. One simple statistic can illustrate the speed and scope of AI adoption: ChatGPT reached its 100 millionth user in just 60 days; in contrast, Instagram took two years to reach the same milestone. According to a recent Stanford University study, the number of AI patents surged 30-fold between 2015 and 2021 (HAI 2023), demonstrating the quick pace of advancement in the field of AI research. AI-powered systems are now able to do a wide range of activities, including information retrieval, logistical coordination, financial services, difficult document translation, business report authoring, legal brief preparation, and even illness diagnosis. Furthermore, given their capacity for learning and improvement through the application of machine learning (ML), they are anticipated to increase the effectiveness and accuracy of these jobs.[4]

Most people agree that AI is a catalyst for productivity and expansion. It has the potential to increase operational efficiency by processing and analyzing massive amounts of data. By 2030, according to the McKinsey Global Institute, less than half of major organizations may be using all available AI technologies, and about 70% of businesses will have adopted at least one form of AI technology. According to Price Waterhouse Coopers, AI might boost the global GDP by 14% in 2030 [4]

2. Explore AI in financial management.

2.1. Why AI is being used in financial management.

Financial operations in the company such as entering, collecting and verifying data requires a lot of effort and time. The use of artificial intelligence in managing these operations contributes to saving time and effort. Also because of pressure and large operations lead to exhaustion and a line of people. Therefore, artificial intelligence can manage these transactions more effectively, which in turn provides smart in achieving high speed and efficiency of operations, where the use of artificial intelligence in financial management simplifies processes, improves work, increases production, and makes good monitoring.[5]

Artificial intelligence also helps in preparing reports for all aspects of the work, that is, in what means, the data in the reports is necessary in making informed decisions. Artificial intelligence contributes to providing reports on a permanent, continuous and timely manner, which provides an actionable vision that allows risk management well, as well as exploiting all opportunities appropriately. Artificial intelligence also contributes to three main things:[6]

1. Productivity by reducing the time required to create and review legal reports and financial statements, monthly financial closures and increase employee productivity.
2. Accuracy, as it reduces errors in the tasks of the mechanism and the accuracy of prediction is felt, such as predicting sales.
3. Improving the value of the business, such as improving the cause of business performance, improving profitability and making competitive advantage.

2.2. Real Applications of AI in financial management with reference

- **Pickling and financial planning:**

This is done by enhancing business flexibility in financial planning, preparing budgets and expectations at the entire enterprise level.[6]

- **Accounting and financial guarantee:**

Using artificial intelligence, accounting matters such as book sponsorship, settlement and financial reporting can be practiced faster and more accurately and thus more effectively.[6]

- **Tax administration:**

The use of artificial intelligence in tax administration allows reducing the tax burden through the automation of processes and the selection of better tax options.[6]

- **Treasury Department**:

Artificial intelligence, when used in treasury management, contributes to reducing financial risks by automatic allying treasury tasks, which in turn helps to obtain integrated solutions and display data better and more accurately.[6]

- **Managing the price submission process:**

By accelerating profits using billing plans for products and services.[6]

- **Governance, risk management and cybersecurity:**

Using smart controls in the artificial intelligence program in risk management more than ever by making early preventive measures against violations and risks.[6]

2.3. The benefit of AI in financial management

Artificial intelligence (AI) has completely changed how organizations run, and SAP's finance management is no exception. The advantages of AI in financial management are incredibly exciting and have the power to completely change how businesses handle many facets of their financial operations. AI has the potential to significantly improve productivity, accuracy, and decision-making across a wide range of industries, including accounting, financial closure, governance, risk, and compliance (GRC), tax management, treasury management, quote-to-cash management, and cybersecurity.[7]

Starting with Aspects of Financial Managements:

2.3.1 Financial Planning Analysis (FPA)

- **Improving Forecasting**: AI can examine historical data and market patterns to produce more precise and timely economic forecasts, which can help with decision-making, also with cash flow forecasting, and budgeting comes with greater precision and speed.
- **Scenario Analysis**: AI models can simulate a variety of scenarios and their financial effects, assisting firms in making decisions and planning for potential outcomes.

- **Real-time Data Analysis**: AI is capable of processing massive amounts of data in real-time, making it possible to identify trends and insights that can lead to more efficient financial plans more quickly. [8]

  What is Real-Time Data?

  Real-Time Data means When you are delivering Data Insights to users and customers as they happen, you're processing events to just continuously crunch numbers and provide online insights. Ex, Google maps; Gives updates about traffic and lots of other different things, that makes us take better decisions based on the knowledge that we have available. Other Examples; ATM, Fraud Detection and Customer Service.

2.3.2 Accounting and Financial Close (AFC)

- **Automated bookkeeping**: Systems that utilize AI may automate repetitive accounting tasks, lowering mistakes and boosting the effectiveness of financial closure procedures.

  What is Bookkeeping?

  Bookkeeping is the practice of recording, processing, summarizing and reporting financial transactions. And Bookkeepers are the people who make this happen.

- **Fraud detection**: AI systems are capable of spotting trends and abnormalities linked to fraudulent activity, improving internal controls and lowering financial risks.
- **Reconciliation Automation**: Through the use of AI, reconciliation procedures may be streamlined, resulting in accurate and timely financial reporting.

  What is Payment-Reconciliation?

  Payment Reconciliation is a fundamental accounting process that compares internal financial records -like the general ledger often kept in accounting software- to external payment records, primarily from financial institutions, to ensure the entries match. It's also can help identify errors, uncashed checks and even instances of fraud.[9]

2.3.3 Tax Management

- **Tax Compliance Automation**: AI Can help Monitor and ensure compliance with constantly evolving tax laws, lowering the risk of penalties.
- **Tax Optimization:** Through the use of AI-driven research, tax optimization options may be found, possibly lowering tax bills and boosting financial performance.[10]

2.3.4 Treasury Management

- **Cash Flow Predictions**: Using past data, AI can forecast cash flow trends, improving cash management and liquidity.
- **Risk management:** AI can spot possible dangers in the financial sector and provide risk-reduction tactics, assisting treasury departments in making wise investment choices.[11]

2.3.5 Quote-to-Cash Management

- **Pricing optimization**: AI algorithms may examine consumer behaviour and market dynamics to improve pricing strategies and increase revenue.
- **Sales Forecasting**: AI-powered Systems can produce precise sales projections, assisting with resource allocation and inventory management.[12]

2.3.6 Governance, Risk, and Compliance (GRC) and Cybersecurity

- **Regulatory Compliance**: By automating procedures and identifying possible problems, AI can monitor regulatory changes and assist in ensuring compliance.
- **Cybersecurity:** By looking for irregularities in network data, spotting possible threats, and taking immediate action, AI may improve cybersecurity, in fact it can play a vital role in detecting and preventing cyer-attacks by monitoring these activities, suspicious patters or behaviours.[13]

In a business-like SAP, incorporating AI into financial management procedures may boost productivity, enhance decision-making accuracy, lower risks, and boost financial performance. Financial professionals may concentrate on strategic activities while AI takes care of repetitive and data-intensive chores. To achieve smooth integration and maximize the benefits, AI solutions must be properly planned and put into practice.

2.4. How can we use AI in financial management?

2.4.1 Financial Planning Analysis (FPA)

- **Advanced Forecasting:** SAP use AI algorithms to evaluate previous financial information as well as influences from the outside market to provide more precise and detailed financial projections.

  Data Integration and Gathering The first stage is to compile pertinent financial information from the organization's numerous sources, including sales, costs, cash flows, and balance sheets. In order to fully understand the business environment, external data sources such as competitor performance, economic indicators, market trends, and geopolitical events can be combined.

  Algorithm Selection; Forecasting models may be made using a variety of AI approaches. Time series analysis, regression, neural networks, and ensemble approaches are a few examples of machine learning algorithms that may be used to capture complicated correlations between data and produce precise predictions.[8]

- **Scenario Modelling**: AI is capable of simulating many economic situations, which allows for improved risk management and strategic planning.

  The first stage is to determine the various economic situations that could have an influence on the company. Various causes, including economic downturns, geopolitical crises, interruptions in the supply chain, shifts in consumer behaviour, technical advances, and more, might be included in these scenarios.

  The creation of models that can mimic various economic situations makes use of cutting-edge AI technologies like machine learning and simulation approaches. Complex interactions between variables may be captured by machine learning algorithms, and dynamic models that reflect actual processes can be created using simulation techniques.[8]

What are cutting-edge AI technologies?

Cutting-edge AI technologies refer to the innovative and revolutionary advances in artificial intelligence. These innovations are at the cutting edge of research and use, frequently going beyond the capabilities of AI. For instance, Chatgpt-4.

- **Data Visualization and Insights:** SAP analytics solutions driven by AI can automatically provide visual representations of complicated financial data, making it simpler for stakeholders to understand and make wise decisions.

  Tools and platforms that use artificial intelligence (AI) to handle and analyse vast amounts of data are known as AI-powered analytics tools. Patterns, anomalies, correlations, and insights that could be challenging or time-consuming for people to manually discover can be found with the aid of AI algorithms.

  Automated visual representation generation is possible with AI-powered analytics tools using complicated financial data. In order to effectively communicate the information to users, proper chart kinds, colours, labels, and other graphic elements must be used.[8]

2.4.2 Accounting and Financial Close (AFC)

- **Automated reconciliation:** AI systems can quickly and reliably reconcile massive amounts of financial data, minimizing manual labour and mistakes.

  In the first phase, the necessary financial information is gathered from a variety of sources, including bank statements, transaction records, invoices, and more. To guarantee quality and consistency, the gathered data is cleansed and standardized. In this stage, duplicates are removed, the data is formatted, and missing or incomplete data is handled. To automatically match similar items in various datasets, AI algorithms -often leveraging machine learning techniques-are used. These algorithms can spot trends, connections, and resemblances among data items. Any anomalies or inconsistencies are found by comparing the matching data points and using algorithms. These differences can be the result of inaccurate recordkeeping, omitted transactions, or other irregularities.[9]

- **Exception Detection:** The Algorithm may indicate situations where it finds difference so that humans operators might evaluate them further. This enables professionals to concentrate their efforts on handling exceptions or resolving tricky issues.

- **Predictive analytics for the financial closing process:** AI can identify possible obstacles and provide solutions to speed up the procedure. Through pattern recognition, artificial intelligence (AI) can spot potential obstacles that

have in the past slowed down or made mistakes throughout the financial closure process. These challenges may consist of inaccurate data, disparities in the reconciliation, a lack of supporting paperwork, or other problems.[9]

2.4.3 Tax Management

- **Regulatory Monitoring**: AI is able to continually keep track of changes to tax laws and regulations, assuring compliance in real time. To extract useful information, the obtained data would be analysed using NLP algorithms. With the use of NLP, the AI system can comprehend and analyse the language of regulatory papers, spot important changes, and classify them according to how important they are to the business.

  The AI system might produce warnings, notifications, or reports for pertinent corporate stakeholders. The regulatory change summary, possible effects, and suggested measures to guarantee compliance may all be included in these notifications.
- **Automated tax filing:** Artificial intelligence-driven systems can automate the creation and submission of tax returns, lowering human error and boosting productivity. SAP has integrated such capabilities into its financial or ERP (Enterprise resource planning) solutions, it involves leveraging AI and machine learning algorithms to process financial data, identify relevant tax information, perform necessary calculations, and generate accurate tax forms.[10]

2.4.4 Treasury Management

- **Cash Flow Optimization**: AI may predict future cash flows by analysing past trends/patterns, which helps with effective cash management and investment choices.
- **Risk assessment:** Based on real-time data, AI algorithms can evaluate market risks and make the best investment recommendations.[11]

2.4.5 Quote-to-Cash Management

- **Dynamic Pricing**: AI algorithms utilize complex mathematical models to calculate the best prices for goods or services depending on a variety of factors. These models take into account variables including demand elasticity,

targeted profit margins, consumer willingness to pay, and manufacturing costs.

- **Sales Prediction**: AI is capable of predicting future sales using past data and industry patterns, which helps with resource allocation and inventory planning. Once the model is trained and validated, it will be used to make sales predictions for future time periods. Incorporate external factors and variables that might affect sales, such as upcoming promotions, holidays, or economic events.[12]

2.4.6 Governance, Risk, and Compliance (GRC) and Cybersecurity

- **Anomaly Detection**: AI can track user activity within SAP systems and spot odd behaviour that might indicate security breaches.
- **Monitoring of Regulatory Compliance**: AI may keep track of changes to rules and verify that compliance requirements are followed, producing alerts and reports as necessary.[13]

2.5. Steps for adopting AI in financial management.

There are many steps that sap does through artificial intelligence, including:[14]

- **Get Familiar With AI:**

The intersection of science, technology, and imagination has led to one of the most groundbreaking developments of our time: artificial intelligence (AI). AI is mostly used to describe the simulation of human intelligence functions by machines, particularly computer systems. This simulation involves reasoning—using rules to arrive at approximations or firm conclusions—learning—acquiring knowledge and rules for employing it—and self-correction (Thaigo prado, 2023).

Finance executives are convinced that integrating artificial intelligence (AI) into financial business operations will significantly improve the efficiency of tasks like audits, forecasting, budgeting, and planning, as well as activities like payments, cost management, and financial closing. Finance departments can modernize their processes with AI's aid.

In addition, you want to take advantage of the plethora of online data and resources at your command for getting acquainted with the fundamental ideas of AI. Tang

recommends making use of some of the remote workshops and online courses given by businesses like Udacity as simple ways to get started with AI and to improve your organization's experience of areas like ML and predictive analytics.
Several online tools (both free and paid) are listed below that you can use to get started:

Intro to AI course and Nanodegree in Artificial Intelligence at Udacity
lectures offered online by Stanford University: Principles and Practice of Artificial Intelligence
The online AI course on edX is supplied by Columbia University.
Microsoft's free Cognitive Toolkit (which was formerly CNTK), helps programmers in learning deep-learning algorithms

- **Identify the Problems You Want AI to Solve :**

Here SAP has taken into account cases where artificial intelligence can solve business problems, especially finance, so it has, With AI-powered insights, suggestions, and automation included in your SAP apps, transform financial operations. Adding AI to your finance procedures will improve your organization's security and compliance while increasing the efficiency and business foresight of your finance team.

Automate laborious manual processes to free up time for strategic projects.
Manage capital more efficiently with more accurate reporting
Utilize anomaly detection and prevention to lessen the risk of fraud and to cut costs.
SAP might show how machine learning, image recognition, and additional technologies fit into those products, typically with a type of workshop with top management.

- **Prioritize Concrete Value:**

The potential commercial and financial value of the various AI applications you found next should be assessed. Import Link your projects directly to the value of the works,

Put the dimensions of potential and feasibility in a 2x2 matrix to determine what matters most. This will allow you to prioritize based on short-term vision and determine the

financial value of the company. You often need ownership and permission from managers and executives for the move.
(Tang side, 2018)

- **Acknowledge the Internal Capability Gap:**

Before adopting complete AI, businesses need to recognize what they are and are not capable of in regards to technology and business processes.
It may take an extended period to finish this. "Before you start, you have to decide what skills you need to acquire and which internal processes you need to establish in order to close your internal ability gap.

Furthermore, depending on the business, there may be current initiatives or teams that can support various business units in doing this spontaneously.

SAP evaluates its capabilities whether it is able to keep pace with the rapid developments in commercial programs, from training its employees, as well as hiring professional people, so that the company can meet financial requests from its customers.

- **Bring In Experts and Set Up a Pilot Project:**

SAP started as a small company whose idea came out of friends: Dietmar Hope, Klaus Chira, Hans-Verner Hector, Hasso Platner, Klaus Willenother in 1972 and launched their first commercial product a year later. Tang said that one of the most important factors here is to start small, set goals for the project from the beginning and most importantly to be familiar with artificial intelligence, from this place, experts and consultants respond. From here, the idea began experimentally until it became a SAP company from a small German company to one of the largest technology companies in the world.
After the pilot project was over, SAP should be able to determine whether the value proposition makes sense for SAP operations and what will be "the most detailed" long-term project. It's essential that the SAP pilot project team integrates the expertise of both individuals with business and AI competencies.

- **Form a Taskforce to Integrate Data:**

You have to prepare your data for automatic education before implementing it in your workplace (Tang, 2018), since this guarantees that SAP has high-quality data to work using.

By collecting the many datasets, cleaning up mistakes in order to make the data correct and rich with every one of the needed dimensions for ML.

Choosing an excellent SAP outsourcing business can assist you provide cutting-edge SAP solutions and optimizing the efficacy of cloud integration or business investment solutions. These solutions can help you manage complex business processes with ease and can help you reduce workflow so that it correctly complements the way you organize your company.

- **Start Small:**

Instead of devouring excessive data too soon, start applying AI to a very small sample of your data.

With the goal to expand from a five-person startup to one of the biggest companies in the world for the management of business operations and software development, SAP was created in 1972. Instead of applying vast quantities of data to many consumers at once as the company had previously done, SAP began to experiment with artificial intelligence gradually to collect and prove value. This let the company prosper, notably in its financial services.

- **Include Storage As Part of Your AI Plan:**

Once you have collected a tiny sample of data, you should think approximately how much data storage is needed for creating an AI solution.

In addition, the gorisms must be strengthened and improved to reach research results.

But AI systems won't improve enough to meet a company's computing needs without too much data to help build more accurate models.

SAP stores large financial information through cloud storage such as Amazon, Cloud, etc. so that it stores a wide range of financial customer data so that the AI model can easily access it to provide solutions.

- **Incorporate AI as Part of Your Daily Tasks:**

Workers are now given a tool for incorporating AI within their daily activities rather than something to replace it, thanks to the additional insight and automation that AI delivers.

SAP uses artificial intelligence and integrates it into financial management so that it carries out financial planning and analysis that predicts the entire customer's institution, accounting and financial closure, tax management and other multiple tasks performed by SAP using artificial intelligence in terms of financial management.

- **Build With Balance:**

In the words of Pokorny, building an AI system requires balancing the needs of the research attempt with those that pertain to the technology itself. The overarching principle is that you ought to build the system with balance, Pokorny added, even before you begin to design an AI system. "While it may seem simple to use too frequently, AI systems are created without thinking about the needs and constraints of the hardware and software that would enable the research, instead focusing on specific characteristics of how the team envisions attaining its research goals. The end turn is an inadequate, even deficient, system that is unable to achieve the goals that were set.

SAP includes sufficient space for storage, GPU, and networking to ensure this balance. Security is an additional factor that is frequently ignored. By its very nature, AI needs access to enormous amounts of data to operate effectively. Make sure you are aware of the different sorts of data that will be utilized in the project and that the standard safety precautions, including encryption, virtual private networks (VP), and anti-malware, might not be enough.

2.6. The impact of adopting AI in financial management with another departments / field

The adoption of artificial intelligence by SAP, especially in the financial department, has led to major changes in the company's work and performance. This section will discuss the impact of artificial intelligence on the financial division of SAP and its impact on the rest of the departments.

The beginnings of artificial intelligence have a great and effective ability to grow the company's business, by automation of repetitive and time-consuming tasks, allowing the company to focus on strategic initiatives. Also, by adopting artificial intelligence for workers, the company may provide insights that humans cannot see, this leads to making the best decisions, improving efficiency and increasing accuracy (Jorge Ribeiro, 2023).

The adoption of artificial intelligence has led to some Advantages and challenges AI process automation offers an assortment of features. It improves consistency, decreases errors, and enables for continuously operations. Additionally, it gives scalability, allowing organizations to manage massive workloads without adding more staff members.

However, difficulties still exist. Process automation demands a large financial commitment and technological know-how. There are also many worries about automation eliminating workers. Businesses also need to deal with privacy and data security threats (Thiago prado, 2023).

More detailed than the benefits of artificial intelligence on SAP financial department enhance predictive capabilities, accuracy, and efficiency of work through algorithms that enable automatic trading around the clock non-stop, this ensures that the customer at SAP does not miss any opportunity. Also, through artificial intelligence, human bias in decision-making can reveal any hidden risk in a wide range of financial statements. It would also increase security and confidence in financial transactions and detect fraud.

Another area where AI has had a major impact is risk management. Large amounts of data can be analyzed by artificial intelligence to spot possible threats and create remedies. This can assist businesses in preventing financial losses through better judgment.

As for the challenges of artificial intelligence in finance: Artificial intelligence poses challenges in the financial sector despite its great benefits. If artificial intelligence makes a wrong prediction, this leads to huge losses for the company. Artificial intelligence also poses ethical challenges about the privacy of customer data, as well as continuity. In

implementing artificial intelligence solutions, it needs high experience and a large investment, as this may harm small companies. As for SAP, it has become a large company with high experience in using artificial intelligence in financial matters and many other fields. This is not a challenge for it, but it must continue to progress. keeping pace with the development of artificial intelligence.

3. Limitation of the recent AI application in financial management

- **Bias:** Artificial intelligence (AI) systems may be biased, particularly if the training data is prejudiced. Results may be unfair or erroneous as a result of this. For instance, AI can be biased in its diagnosis and recommended treatments in the healthcare industry, particularly if the data it is trained on is prejudiced. It can be challenging to guarantee the dependability and safety of medical devices powered by AI.[15]
- **Lack of practical wisdom:** Because AI systems lack practical wisdom, they may have trouble understanding or responding to complex and nuanced situations. Although AI has the ability to help people make financial decisions and has other potential financial applications, it also bears the risk of deceiving users or attempting to manipulate the market. To prevent these potential exploitations, it is essential to implement strong security standards.[16]
- **Lack of creativity:** AI may have trouble doing activities that call for original thought, imaginative problem-solving, and subtle context awareness. They are limited to producing results that are based on the training set of data.[15]
- Lack of transparency might make it difficult to trust AI systems because it can be hard to grasp how they decide what to do.[16]
- **Security:** AI systems are vulnerable to manipulation or hacking, which could have negative or disastrous effects. A number of ethical issues surround the usage of AI, including the possibility of job loss and the misuse of the technology for nefarious purposes like monitoring.[15]
- **Data Dependence:** A lot of AI algorithms, particularly deep learning models, depend on a lot of high-quality training data. Results that are skewed or erroneous can emerge from a lack of representative or diversified data.[16]
- **Interpretability and Explainability:** Complex AI models, such as deep neural networks, can be tricky to understand the reasoning behind their actions. This is particularly problematic in important applications like finance and healthcare.

- **Generalization:** When presented with fresh or slightly different scenarios, AI models occasionally struggle to generalize their expertise, which leads to errors when dealing with untested material.[17]
- **Resource Consumption:** Complex AI models must be trained and run using a lot of computer power, making them unavailable or unworkable for particular businesses or locations.[16]
- **Unexpected Errors:** AI models may make unanticipated mistakes or provide results that sound plausible but are inaccurate, which can be troublesome in essential applications.[17]
- **Legal and Regulatory Challenges:** The framework for AI law and regulation is still developing, making it challenging to create precise standards for liability, accountability, and governance.[18]
- **Human-AI Collaboration:** It can be difficult to effectively integrate AI into human workflows since it may not fully comprehend or react to human intentions and demands.[17]
- **Lack of Domain Knowledge:** AI models only use the data they have been trained on and have no intrinsic understanding of the outside world. They are limited to using the data they have learned.[18]

4. References

[1] OP. company. (8-8-2023). Available: https://www.sap.com/about/what-is-sap.html

[2] SAP. financial. (13-8-2023). Available: https://www.sap.com/products/financial-management.html

[3] Dr. Muhannad. Tuffaha, "AI course slides."

[4] CERP. (2023, 11-8-2023). *The impact of artificial intelligence on growth and employment*. Available: https://cepr.org/voxeu/columns/impact-artificial-intelligence-growth-and-employment

[5] SAPinsider EMEA 2023.(14-8-2023).Available: https://www.sap.com/mena-ar/products/financial-management.html?url_id=banner-mnar-homepage-row2-pos3-finance-230510

[6] ORACLE.(14-8-2023).Available:https://www.oracle.com/jo-ar/erp/ai-financials/what-is-ai-in-finance/

[7] SAP Finance Business Analyst in the Age of AI and Machine Learning: Unleashing the Power of AI and Machine Learning. (16-8-2023) .Available: https://www.linkedin.com/pulse/sap-finance-business-analyst-age-ai-machine-learning-unleashing

[8] SAP Financial planning alaysis. (16-8-2023). Available: https://www.sap.com/canada/products/financial-management/financial-planning-analysis-fpa.html

[9] SAP Accounting financial close. (16-8-2023). Available: https://www.sap.com/canada/products/financial-management/accounting-financial-close.html

[10] SAP Tax Management . (16-8-2023). Available: https://www.sap.com/canada/products/financial-management/tax-management.html

[11] SAP Treasury Managment. (16-8-2023). Available: https://www.sap.com/canada/products/financial-management/treasury-management.html

[12] SAP Quote to cash managment. (16-8-2023). Available: https://www.sap.com/canada/products/financial-management/quote-to-cash-management.html

[13] SAP GRC. (16-8-2023). Available: https://www.sap.com/canada/products/financial-management/grc.html .

Leveraging Artificial Intelligence in Finance, Supply Chain, and ERP: An In-Depth Guide | SAP Blogs

The Impact of Artificial Intelligence on Finance and Accounting Departments:

The Impact of Artificial Intelligence on Finance and Accounting Departments (linkedin.com)

[14] 10 Steps to Adopting Artificial Intelligence in Your Business | PCMag (18-8-2023).Available: https://www.pcmag.com/news/10-steps-to-adopting-artificial-intelligence-in-your-business

[15] C. H. Wong, M.H. Abdul Samad and N. Taib, "Potential and limitation of AI system in building services and control management system," IOP Conf. Series: Earth and Environmental Science 881 (2021) 012044, doi:10.1088/1755-1315/881/1/012044

[16] Meraj Farheen Ansari, Bibhu Dash, Pawankumar Sharma, Nikhitha Yathiraju,"The Impact and Limitations of Artificial Intelligence in Cybersecurity:A Literature Review ",International Journal of Advanced Research in Computer and Communication Engineering, Vol. 11, Issue 9, September 2022,DOI: 10.17148/IJARCCE.2022.11912

[17] Puthal, D., & Mohanty, S. (2021). Cybersecurity Issues in AI. IEEE Consumer Electronics Magazine, 10(4), 33-35.https://doi.org/10.1109/mce.2021.3066828

[18] David W. G. Langerhuizen, MD,corresponding author Stein J. Janssen, MD, PhD, Wouter H. Mallee, MD, Michel P.J. van den Bekerom, MD, PhD, David Ring, MD, PhD, Gino M. M. J. Kerkhoffs, MD, PhD, Ruurd L. Jaarsma, MD, PhD, FRACS, and Job N. Doornberg, MD, PhD,"What Are the Applications and Limitations of Artificial

Intelligence for Fracture Detection and Classification in Orthopaedic Trauma Imaging? A Systematic Review",Clinical Orthopaedics and Related Research 477(11):p 2495-2507, November 2019. , DOI: 10.1097/CORR.0000000000000899