INSTITUTE OF CHARTERED ACCOUNTANTS OF PAKISTAN

THE APPLICATION OF GENERATIVE AI IN FINANCE & ACCOUNTING DOMAIN: A HANDS ON TRAINING

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UNLOCKING THE POWER OF GENERATIVE AI IN FINANCE AND ACCOUNTING: A COMPREHENSIVE OVERVIEW

Generative Artificial Intelligence (AI) is rapidly reshaping the landscape of finance and accounting, revolutionizing how professionals approach tasks and decision-making processes. Recently, the Digital Assurance and Accounting Board of Institute of Chartered Accountants of Pakistan (ICAP) organized a hands on-workshop focusing on the application of Generative AI in the finance and accounting domain. The workshop featured insightful information by industry experts, including Mr. Farrukh Rehman President ICAP, Mr. Nabeel Mirza from Kanbina London, Mr. Farzad Sunavala a Senior Product Manager at Microsoft, and Ms. Khursheed Kotwal Vice President and Chairperson of the Digital Assurance and Accounting Board of ICAP.

UNDERSTANDING GENERATIVE AI:

The Workshop elucidated the essence of Generative AI (Gen AI) and its distinctions from traditional AI. Gen AI signifies a paradigm shift in AI technology, offering outputs that closely resemble human-like responses. It's important to recognize that AI extends beyond text-based applications to include image and voice-related technologies as well. However, caution is warranted in its utilization, emphasizing the importance of ensuring the reliability and accuracy of generated outputs. The regulatory considerations associated with Gen AI, underscoring the need for comprehensive legislation to govern its usage was highlighted well.
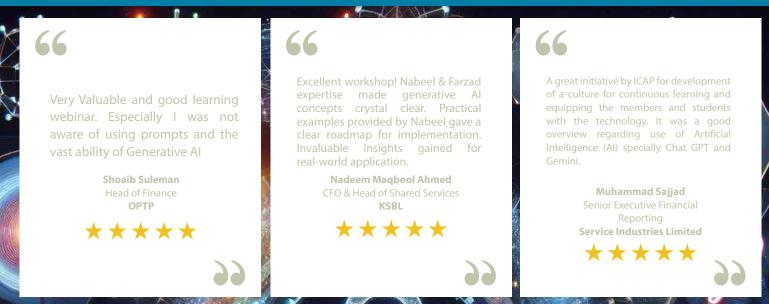
WHAT IS GENERATIVE AI:

Why is there such a hue & cry about Generative AI? ChatGPT and Gemini are largely responsible for the considerable buzz around GenAI, which uses data from machine learning models to answer questions and create images, text and videos.

According to a tweet by Sam Altman, CEO of OpenAI, ChatGPT gained 1 million users in the first five days of its launch. In just two months it crossed 100 million — making it the fastest-growing consumer application in history.

To put that into perspective, TikTok took nine months, and

PARTICIPANTS REVIEWS

" Very Valuable and good learning webinar. Especially I was not aware of using prompts and the vast ability of Generative AI

Shoaib Suleman
Head of Finance
OPTP

★ ★ ★ ★ ★

" Excellent workshop! Nabeel & Farzad expertise made generative AI concepts crystal clear. Practical examples provided by Nabeel gave a clear roadmap for implementation. Invaluable insights gained for real-world application.

Nadeem Maqbool Ahmed
CFO & Head of Shared Services
KSBL

★ ★ ★ ★ ★

" A great initiative by ICAP for development of a culture for continuous learning and equipping the members and students with the technology. It was a good overview regarding use of Artificial Intelligence (AI) specially Chat GPT and Gemini.

Muhammad Sajjad
Senior Executive Financial Reporting
Service Industries Limited

★ ★ ★ ★ ★

In examining global efforts towards AI legislation, it appears that two countries have already implemented regulations pertaining to the deployment of AI technology: Singapore and the European Union. However, Pakistan yet to initiate steps towards enacting legislation aimed at ensuring the safe utilization of AI.

Recognizing the significance of tech integration across various sectors, ICAP prioritizes the implementation of tech-driven initiatives. Through our forum, the Digital Assurance and Accounting Board, we are steadily introducing new initiatives focused on Gen AI and other technological advancements. We are also exploring how the Gen AI can be used within the ICAP for daily operations; and for the members new training certification programs are being designed. The Digital Assurance and Accounting Board has already implemented initiatives such as Technology Assurance Certificate and Data Analytics Training Program and we remain committed to new learning and development for the members.

Instagram took two and a half years to reach 100 million users — something that ChatGPT did in a mere two months.

OpenAI introduced ChatGPT in November 2022, sparking a tremendous amount of interest in generative AI. Google made its GenAI move in March 2023 with Bard. In February 2024, Google rebranded Bard as Gemini when it brought an improved version of the AI chatbot.

Generative Artificial Intelligence (AI) is a cutting-edge technology that enables machines to understand and generate human-like text, revolutionizing various industries, including finance and accounting. It operates by analyzing vast datasets, drawing from historical information, and making predictions without explicit programming.

FACTS ABOUT GENERATIVE AI

Generative AI, such as ChatGPT and Gemini, has become instrumental in transforming traditional financial processes. These systems can summarize text, infer sentiments,

translate languages, and even generate emails autonomously. The technology relies on effective prompt engineering to deliver accurate and relevant responses.

Artificial intelligence (AI) is revolutionizing problem-solving by drawing on the principles of comparing known information to unknown data and adjusting based on experience. This concept, rooted in linear regression dating back to the 19th century, relies on vast datasets to drive its functionality. Large Language Models (LLMs), such as GPT-3, epitomize this approach by comprehending and generating human language through predictive analysis. However, for tasks requiring specialization, Instruction-Tuned Language Models undergo further training to produce more precise outputs.

Machine learning, an integral aspect of AI, allows systems like ChatGPT to continuously evolve and improve their performance. ChatGPT learns from a diverse array of text sources, absorbing patterns of language usage, context, and semantics. This iterative learning process enables ChatGPT to generate contextually relevant and coherent responses, adapting and evolving over time.

By analyzing vast amounts of data and making predictions without explicit programming, machine learning facilitates ChatGPT's ability to understand and generate human-like text with increasing accuracy and fluency. Thus, AI and machine learning synergistically drive advancements in problem-solving and language generation, heralding a new era of intelligent systems.

This iterative learning process exemplifies the synergy between AI and engineering, where machine learning empowers systems like ChatGPT and Gemini to adapt and evolve, driving advancements in language generation and problem-solving. Thus, the combination of AI and engineering fuels innovation, propelling us into an era where intelligent systems redefine the boundaries of possibility.

TOOLS IN THE WEBINAR - EXPLORING PROMPT ENGINEERING:

A pivotal aspect of the discussion revolved around Generative AI's capabilities and effective prompt engineering tactics. By giving text commands (prompting), you can give instructions on what you want to achieve. This instruction takes place on all conceivable formats and sources such as spreadsheets, PDFs, databases, all without knowledge of coding.

During a recent webinar, participants were introduced to the functionalities of Generative AI through practical demonstrations using ChatGPT and Gemini. Delimiters

such as ",", "", and <> were showcased as game-changers, allowing precise control over the model's outputs. Participants witnessed how Generative AI can streamline auditing solutions and modernize financial workflows.

Generative AI, like ChatGPT, can do lots of things, from summarizing text to writing emails. But to get it to do what we want, we need to give it clear instructions, sort of like giving directions to someone. We can do this by breaking down the task into smaller parts, using examples to help it understand, and giving it time to think. By doing this, we make sure it gives us the right answers. So, when we use prompt engineering, we're basically setting up the AI to work its best and give us the most helpful responses possible.

ChatGPT, being a versatile language model, can respond to a wide range of prompts. Some of its famous and useful prompts include:
1. Text Summarization:
   - "Summarize the following text."
   - "Condense this article into a few sentences."
2. Sentiment Analysis:
   - "Analyze the sentiment of this paragraph."
   - "What is the mood of this text?"
3. Language Translation:
   - "Translate this sentence into French."
   - "How do you say 'hello' in Spanish?"
4. Text Expansion:
   - "Expand on this idea."
   - "Write a longer version of this paragraph."
These prompts cover a variety of tasks and interactions that users commonly engage in with ChatGPT. Depending on the specific use case and desired outcome, users can customize prompts to suit their needs and extract valuable insights or information from the model.

An example of a prompt is: 'as a Financial Controller, give me an analysis of why the Sales in quarter 3 of 2023 lags behind quarter 3 of 2022'. You can then ask follow-up questions.

HANDS ON TRAINING - FINANCE USE CASE DEMO:

During the workshop, participants received an insightful demonstration on the functionality of AI through prompts using both the paid and unpaid versions of ChatGPT, alongside the renowned Gemini platform. The speakers, showcased practical applications of delimiters such as ",", "", and <>, which proved to be game-changers for attendees. Drawing from their practical experiences, they provided a glimpse into well-known audit firm innovative use of Generative AI to modernize auditing solutions.

A Demo was given by the speaker, using Chat GPT 4, the financial statements of a large multi-national bank was uploaded. This document was over 400 pages long. It was a complex document with many tables, charts and highlights of financial facts and figures.

Using the principles and tactics of better prompt engineering they designed a prompt to make sure that ChatGPT only provided answer based on document(s) uploaded. Further they guided model regarding format of output (number of words, paragraph's structure etc).

Lastly, they queried model regarding various financial and non-financial matters like management changes, revenue comparison, geographical analysis etc.

One interesting use of model was to provide a list of questions that could be used to probe revenue, based on document uploaded.

REAL-WORLD APPLICATIONS AND CHALLENGES:

Ms. Khursheed Kotwal provided a comprehensive overview of Generative AI's significance in the realm of finance and accounting during the workshop. Her address resonated with attendees from various parts of the world, emphasizing the transformative potential and ethical considerations surrounding this burgeoning technology.

Generative AI offers a diverse array of applications within the finance and accounting domain. From automating financial statement analysis to enhancing readability of financial communication, this technology streamlines processes and frees up professionals for higher-level tasks requiring human judgment. Moreover, Generative AI aids in generating insights from data, managing compliance risk, detecting fraud, and facilitating staff training through scenario generation.

Ms. Kotwal outlined how finance professionals can leverage this technology to revolutionize their workflows. In the dynamic world of finance and accounting, Generative AI emerges as a powerful ally, offering a myriad of advantages across critical functions.

1. You can **revolutionize financial and management reporting**. This technology can autonomously produce essential documents like **balance sheets**, **profit and loss statements**, and **cash flow statements**.
2. Incorporating Generative AI into financial workflows enables a **more thorough review of contracts and legal documents**. It swiftly identifies potential risks and **compliance issues**.
3. Manufacturing companies have successfully **streamlined its contract review process**, effectively halving the time required for these crucial legal document assessments.
4. Navigating **complex financial policies** and **regulations** becomes more accessible with Generative AI tools.
5. Generative AI tools can help you to build **forecasts** more accurately after the **machines have learnt up the past historical trends** or the customer data. It can clarify the variations between forecasts and actual results.
6. Generative AI can **profoundly** (deeply) **impact** the **efficiency and accuracy** of numerous routine tasks performed by finance
7. By **automating** data entry, AI reduces the occurrence of **errors**
8. Generative AI empowers to **delve** into vast datasets with precision and efficiency. It equips to identify **critical trends and patterns**, enabling data-driven insights that inform better **financial decisions**.
9. **Companies rely** on GenAI to craft customize **financial reports** for their internal use or for their clients.
10. You can uses GenAI to **forecast sales and manage inventory levels**, leading to reduced inventory holdouts and an overall boost in profitability.

Audit firm and organizations are actively leveraging Generative AI to modernize auditing solutions and extract valuable insights from unstructured data. Collaborations between industry leaders and technology providers, such as PwC's partnership with Microsoft Azure, exemplify the transformative potential of Generative AI in revolutionizing traditional practices and driving innovation within the financial sector.

However, alongside its numerous benefits, the implementation of Generative AI in finance and accounting also raises concerns regarding privacy and security, particularly when handling sensitive financial data. Careful consideration of privacy levels and selection of cloud providers with robust privacy frameworks are essential to mitigate these risks and ensure compliance with regulations.

EMBRACING THE FUTURE:

As the workshop concluded, participants were left with a profound understanding of the transformative potential of Generative AI in finance and accounting. While the technology presents immense opportunities for innovation and efficiency, it also necessitates a nuanced approach, mindful of ethical, regulatory, and privacy considerations. As finance professionals embark on this journey of technological transformation, it is imperative to harness the power of Generative AI responsibly, ensuring its alignment with organizational goals and societal values.

In conclusion, Generative AI presents a transformative opportunity for finance and accounting professionals to enhance efficiency, accuracy, and decision-making processes. By understanding its fundamentals, exploring diverse use cases, and addressing privacy concerns, organizations can harness the full potential of Generative AI to drive innovation and maintain a competitive edge in today's dynamic landscape. As we continue to embrace the possibilities of AI, Generative AI stands poised to revolutionize the finance and accounting industry, shaping the future of financial services in the digital age.