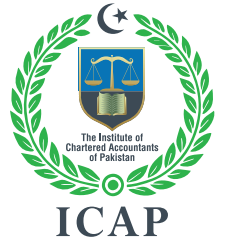


The Pakistan  
**Accountant**  
Magazine



October - December 2024

# GENERATIVE AI

THE NEW FRONTIER  
IN FINANCE





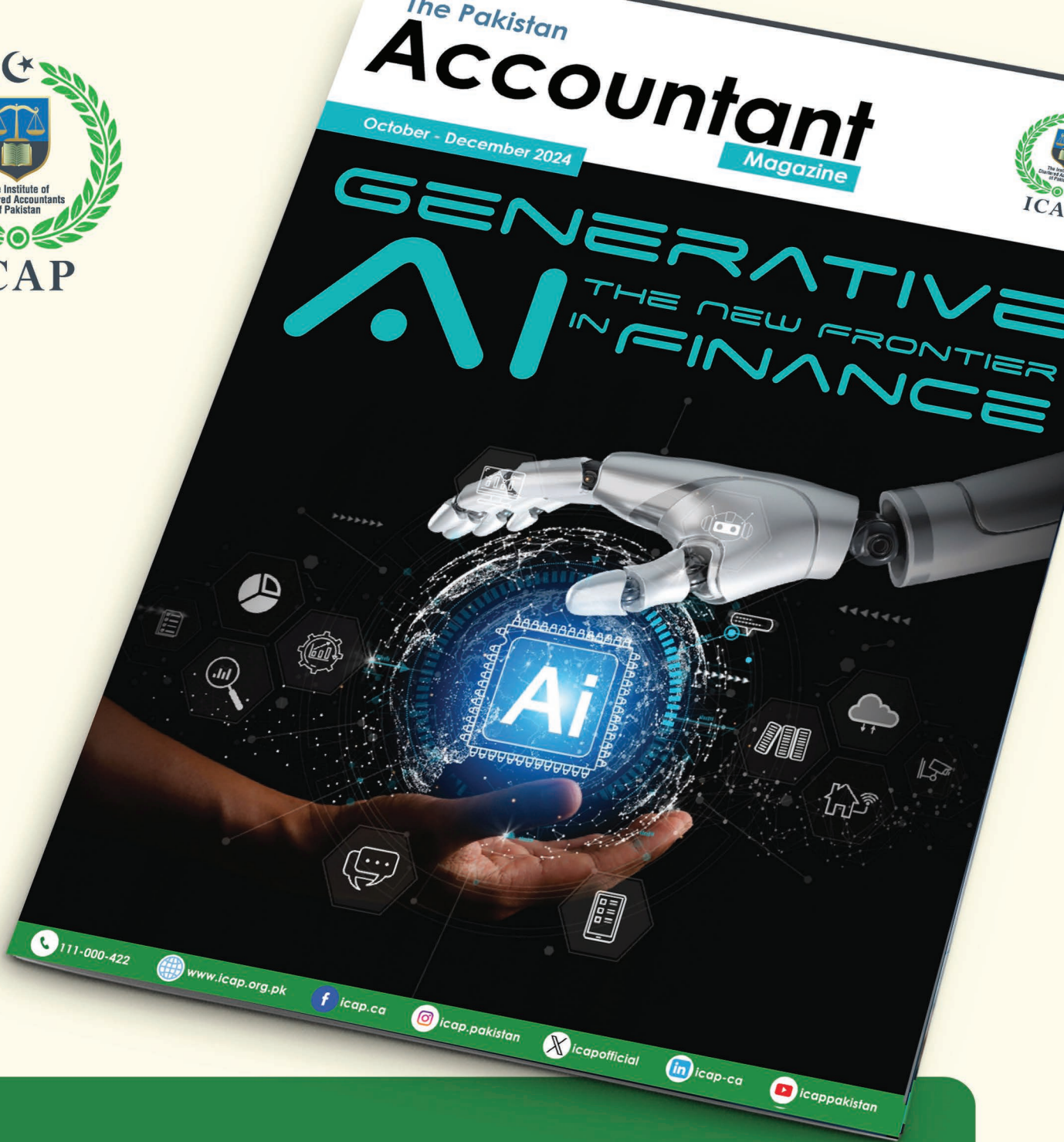
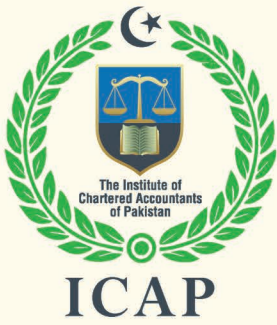
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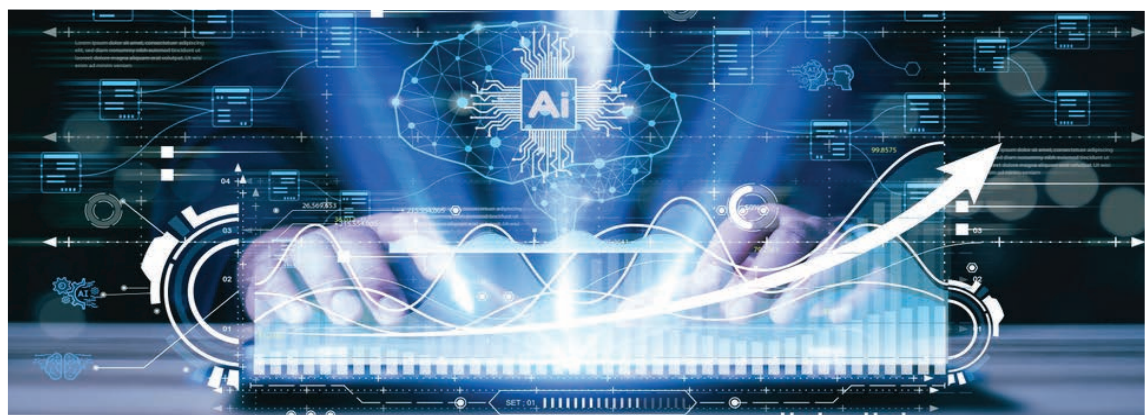
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# Message from President ICAP



**Mr. Farrukh Rehman, FCA**  
President, ICAP

The world of finance is undergoing a rapid transformation, driven by Generative AI—a groundbreaking technology reshaping how we work and create value. As finance professionals, we stand at the cusp of an era where artificial intelligence is no longer a distant possibility but a driving force behind strategic decision-making, operational efficiency, and innovation.

Generative AI brings unprecedented opportunities to ICAP members and the businesses we serve. From automating routine tasks to enhancing financial modeling, forecasting, and risk analysis, this technology empowers us to deliver insights with speed and precision. It enables deeper client engagement by personalizing experiences and opens new avenues for innovation in areas like fraud detection, regulatory compliance, and investment strategies.

For our members, embracing Generative AI means staying ahead in an increasingly competitive global market. It is vital for us to equip ourselves with the knowledge and tools to integrate AI solutions into our practice areas while upholding the highest standards of ethics and integrity. As businesses increasingly adopt AI-driven models, our expertise in combining technological proficiency with sound judgment becomes even more critical.

At ICAP, we are dedicated to equipping our members for this transformative journey into the era of Generative AI. In the latest edition of *The Pakistan Accountant*, you will find numerous insightful articles on Generative AI – *The New Frontier in Finance*. These contributions delve into the profound ways AI is reshaping the financial landscape, offering practical knowledge and innovative strategies to empower our members and the businesses they serve.

Generative AI is more than just a technological advancement; it is a chance to reimagine the future of finance. Let us embrace this change together, leveraging its power to drive growth, innovation, and excellence for our profession and the businesses we serve.

# Message from Chairman MARCOM

Generative AI is not just a technological advancement; it is a paradigm shift that is redefining how businesses operate, make decisions, and create value. As Chairman of MARCOM, I am delighted to present this edition, which delves into Generative AI – The New Frontier in Finance.

This groundbreaking technology offers immense opportunities for innovation in financial processes, risk management, and decision-making. It challenges us to think beyond traditional practices and embrace a future where AI and human expertise work seamlessly together.

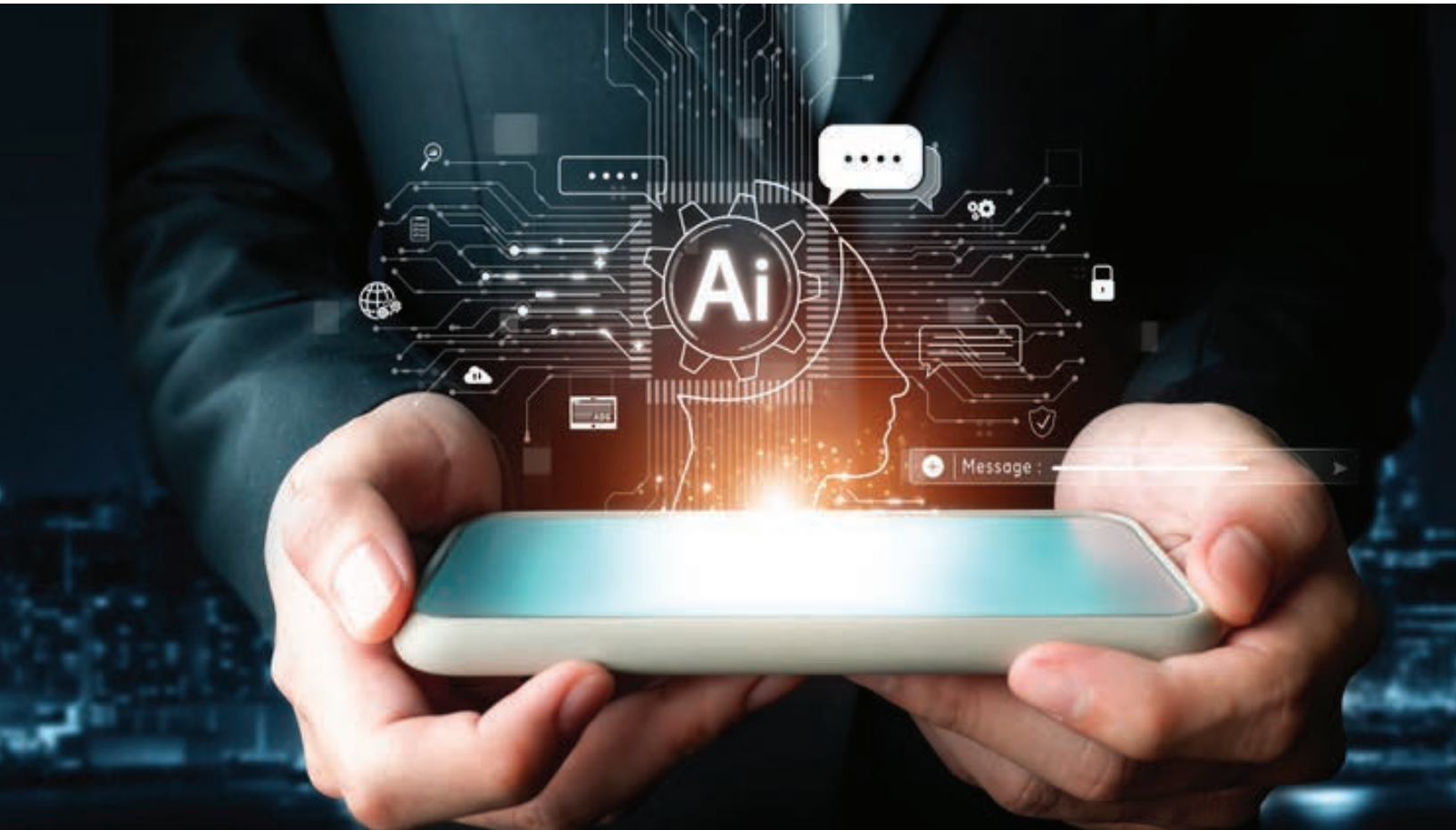
Our contributors have explored the transformative potential of Generative AI, providing diverse perspectives and practical insights for ICAP members. This edition is a reflection of our commitment to equipping our readership with knowledge that not only informs but inspires action.

The decision to spotlight Generative AI – The New Frontier in Finance for this quarter's issue of The Pakistan Accountant stems from its transformative impact on the global financial landscape. As the accountancy profession evolves, understanding and integrating cutting-edge technologies like Generative AI is no longer optional but essential. This topic offers a timely exploration of how AI is reshaping financial processes, decision-making, and innovation, empowering professionals to stay ahead in a rapidly changing world. By addressing this critical subject, we aim to equip ICAP members with the insights and tools needed to harness the potential of AI, ensuring they lead the way in this new era of digital transformation.

I encourage all readers to engage with the content, embrace the opportunities presented by Generative AI, and take proactive steps to adapt to this evolving landscape. Together, we can position the accountancy profession at the forefront of this technological revolution.



**Mr. Husnain R. Badami, FCA**  
Chairman - MARCOM



# Transforming Financial Decision-Making and Business Dynamics with Generative AI

Mr. Sohail Aziz, FCA

Primarily, Generative AI is a sub-category of artificial intelligence that generates new information or data by using the information given, to analyse/detect structures and patterns. Unlike traditional AI, which focusses on tasks like grouping data or outcome prediction, generative AI creates outstanding results like scripts, pictures, music, videos, or even coding structure (i.e., Python, C++ etc.). The financial sector is evolving with the introduction of generative AI. With

the use of cutting-edge algorithms, financial firms can now anticipate situations, develop business models, and generate results in ways that were not possible before.

## How Does Generative AI Impact Financial Decisions?

**More sophisticated data analysis:** Generative AI can



The financial sector is evolving with the introduction of generative AI. With the use of cutting-edge algorithms, financial firms can now anticipate situations, develop business models, and generate results in ways that were not possible before.

Generative AI can quickly and accurately process large amounts of financial data, yielding insights instantly.

quickly and accurately process large amounts of financial data, yielding insights instantly. This gives analysts and CFOs the ability to base their decisions on up-to-date information rather than antiquated trends.

**Market Projections:** Financial institutions are using AI to forecast cash flows, market movements, and revenue streams. These predictive tools help businesses stay ahead of the curve in uncertain markets by identifying threats and opportunities beforehand.

**Improvement/Effectiveness in Reporting:** With the introduction of Gen-AI, challenging tasks have become easier to manage including but not limited to data management and reports generation for ultimate decision making. As a result, reporting has become more quick, effective and accurate, freeing up decision makers tasks to concentrate on strategic goals rather than time consuming exercises.

#### Client Engagement and Service:

**Customized Assistance:** By analyzing consumer data, generative AI can offer tailored financial products. This customization increases customer preference and loyalty.

**Smarter Conversational Agents/Chat Bots:** AI-powered chatbots and virtual assistants are transforming customer services to a next level. By dealing with enquiries, offering financial guidance, and even helping with transactions in real time, they can provide a seamless client experience.

#### Managing and Risk

**Avoiding Deception:** Generative AI can help businesses to highlight and stop fraudulent activities in a proactive manner by identifying unusual patterns in data/transactions.

**Compliance with Rules and Regulation:** In the recent past rules and regulations have become more complicated and comprehensive, hence AI can ensure compliance within the set Parameters automatically. It also reduces the likelihood of violations by ensuring adherence to the law.

#### Ground Realities & Challenges:

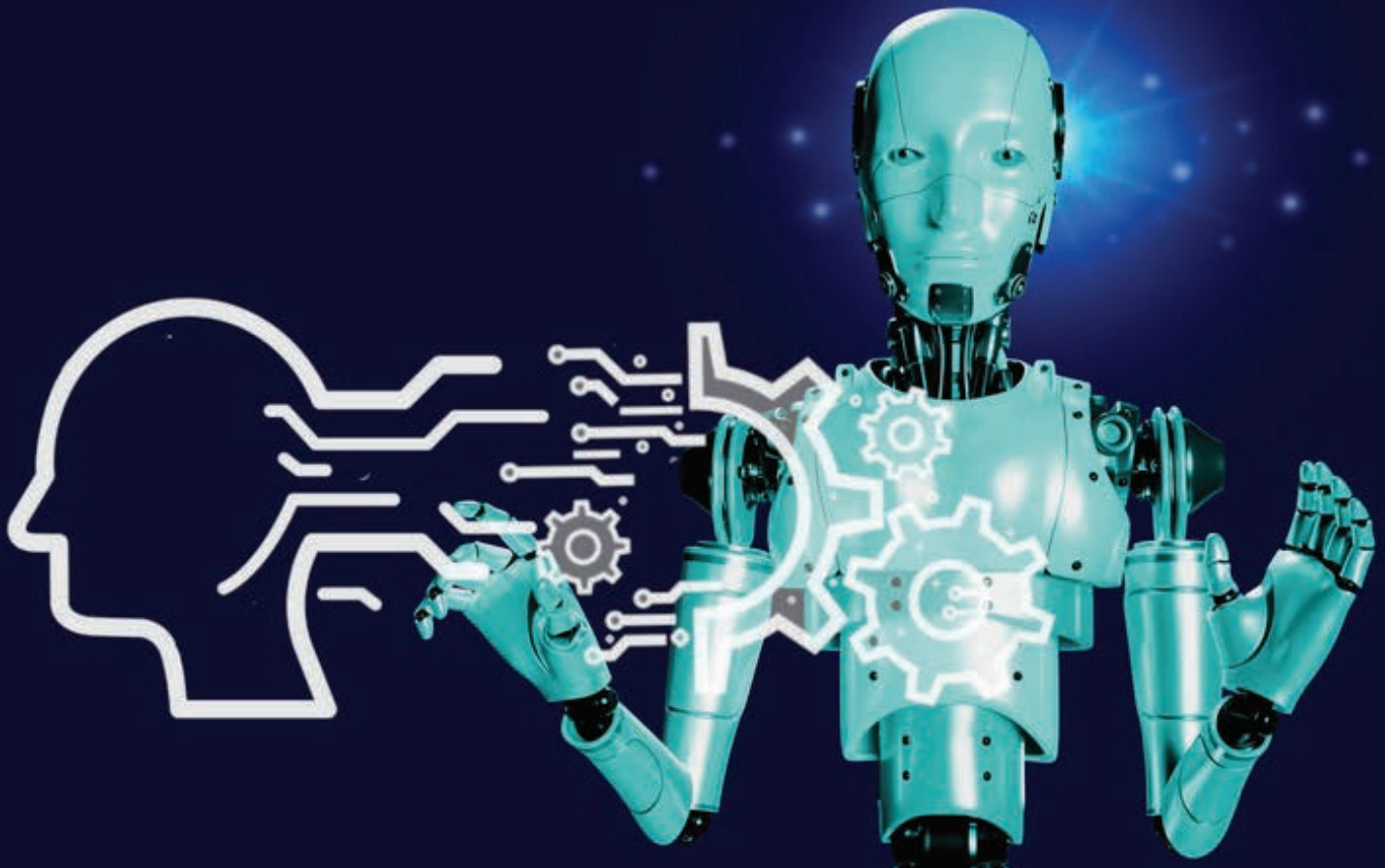
**Information/Data Security:** Financial data protection/ security from potential breaches and misuse is becoming more and more vital as AI handles more of it. Organizations must place a state-of-the-art protection policies to ensure the overall security.

**Scarcity of Technical Minds:** Implementation and interpretation of Generative AI needs experts and to plug this gap Organizations needs a significant investment on training and development of human resources.

In a nutshell although Generative AI is transforming the businesses by supporting/assisting in improving decision-making, improving customer service, and streamlining process. Despite the issues pertaining to skilled staff skills and data security, the benefits of this innovative technology are undeniable. In this continuous evolving era, companies who adopt AI quickly will definitely have a leading edge among others.



The writer is a Fellow Chartered Accountant working as General Manager Finance, Lotte Kolson (Pvt.) Limited.



# The Future of Finance: A Generative AI Perspective

Mr. Faizan Muneer, ACA

Generative AI is a branch of artificial intelligence that has rapidly emerged and is constantly progressing and transforming different industries. It will be very right to mention that AI is no more futuristic and is now an evolving reality. This technology uses complex machine learning language and multifaceted algorithms to learn patterns & structures and then totally generate a new output which is invariably different from source one.

**Few leading examples of generative AI includes:**

- Language models like ChatGPT, that can create human like text on prompting the data

₹ The global generative AI market size was valued to USD 43.87 billion in 2023 anticipated to augment by USD 67 billion in 2024 ₹

**☞ The major challenge that come across is to train the AI model and feed the data that is not biased, else the outcome created will not be impartial such as discernment in lending & investment prospects, insurance guaranteeing, credit scoring etc. ☞**

- Image generation models like DALL-E, which can create realistic images from text description
- Video generation models like Lumen5, that can create animated videos from text

Other includes Google Gemini (with over 370 million visitors), Microsoft Copilot (with over 1.3 million users), Meta AI (with over four billion users). The global generative AI market size was valued to USD 43.87 billion in 2023 anticipated to augment by USD 67 billion in 2024 and accumulating to more than USD 960 billion by 2032 unveiling a CAGR of 39.6% during the period under discussion. The global survey demonstrates a high degree of acceptance of these generative AI as 73% of Indian population, 49% of Australian population, 45% of US population and 29% of UK population demonstrate positive usage of this technology.

The instigation of this technology has unleashed a wealth of prospects for different sectors across invariable industries particularly financial sector. Financial institutions (FIs) these days are capitalizing in these generative AI to attain operational efficiency, take informed decisions, drive revolution, and improve customer experience. This technology has molded the way the things traditionally seem to operate.

One of the crucial features of generative AI is its ability to scrutinize large set of data into eloquent information based on which well-versed business decisions can be taken empowering the FIs to envisage market inclination with better precision. With the capability to absorb from machine language algorithms, historical market drifts and inclinations, it can generate predictive model.

Few leading examples of generative AI used in financial sector includes:

- UBS's SmartWealth platform used for investment advice
- Goldman Sachs Treasury Management platform for cash flow forecasting
- Kyriba's Treasury Management platform for working capital optimization
- BlackRock's Aladdin platform used for risk management
- Citi's Treasury and Trade Solutions for risk management
- Citigroup's LAVA program used for risk analysis
- JPMorgan Chase's COIN program used for contract analysis
- JPMorgan Chase's Treasury Services for liquidity management
- AlphaSense Assistant to transform research for finance professionals
- Tallier LT to perform transaction monitoring

Generative AI enables the financial sector to execute their rigorous routine activities in a more symmetrical and structured manner using different models and algorithms. Few of these are elaborated as follows:

- **Risk Modelling:** Generative AI can develop disparate circumstances that can be used as a stress tester to predict the impact/ risks and consequent outcome of events in each situation to manage different portfolios. For example, the impact of change in the policy rate on the revaluation gain or loss on government securities, cash flow forecasting & management, devising hedging strategies to manage FX & interest rate risk etc.
- **Portfolio Optimization:** Supports in generating optimized portfolio composition based on the investor's predilections.
- **Fraud Recognition:** Scrutinize the pattern of customer's transaction and identify potentially fraudulent activity grounded on suspicion that has been erudite based on the historic trends and take pro-active decision such as debit or credit card blocking. Social engineering and phishing frauds are quite common these days and banks are procuring different AI tools to detect potential fraudulent action and take pre-emptive action to safeguard customer's deposits.
- **Credit Risk Scoring:** This technology can help FIs in analyzing the credit worthiness of the customers based on which credit risk decision can be taken. Moreover, the said technology can also anticipate borrower behavior & default probabilities based on which decision to make changes in credit limits can be made. Nowadays, AI tool has come in to force that can provide FIs with the customer base that can apply for credit facilities if it concise with the customer business requirement.

As per Puneet Gogia, Founder at Excel Champs mentioned that:

**“Another key application is the credit decisioning. AI tools can ingest diverse customer data like income and spending history to generate credit risk scores. These data-based scores are a lot more accurate and fairer than the traditional methods.”**

- **Financial Planning:** Generative AI can assist in developing financial budgets, forecasts, actual vs budget comparisons for individual units/ division.
- **Algorithmic Trading:** Generative AI has already reformed the stock market buying its capabilities to a great extent. Traditional database typically relies on the historic data, market driven information, methodological indicators, and some time political tragedies. This technology, on the other hand can decode & evaluate the amorphous data like news, articles, and sometime social media opinions to provide investment advice.
- **Regulatory Reporting:** The regulatory landscape in finance has now these days become quite overburdened. Non-compliance can easily attract penal action. In this demanding compliance regime, generative AI plays a decisive role in engendering regulatory reports as per the regulatory standards. Besides, it can also antedate probable regulatory changes and make it possible to drive future legal & regulatory requirements.
- **Customer Service and Chatbots:** FIs are turning down to AI chatbots that can knob customer-oriented queries, offers personalized financial services and process transactions 24\*7.

Some of the leading FIs across the globe that are efficaciously exploiting generative AI includes JP Morgan Chase and Capital One, Citigroup, Goldman Sachs, Hokuhoku Financial Group, Swift, ABN Amro, ING Bank and BBVA.

Despite the overwhelming benefits that streamed from this technology, there are some failures that many companies have faced as a consequent of blunders made by these superficial technologies. Leading examples includes:

- McDonalds culminates AI trial to take drive-thru orders and called the whole thing off in June 2024. AI was unable to comprehend the customer orders and was accumulating items in their order.
- Air Canada pays to the customer as Chatbot provides inaccurate information to the customer at a specific tough time.
- iTutor Group confronted drastic penalty of USD 365,000 to settle a suit brought by US Equal Employment Opportunity Commission (EEOC). The agency claims that AI powered recruiting software inevitably discards eligible female applicants aged fifty-five and above and male applicants aged sixty and above. As a result, 200 qualified applicants were excluded by software ensuing in age perspicacity.

- Microsoft designed AI chatbot with an impression that a chatbot would adopt the facade of teenage girl who would interact with individuals via Twitter by means of combination of machine language and natural language processing. Microsoft was seeded with anonymized public data and some other pre-written constituents by comedians. Within 16 hours, the chatbot posts more than 95,000 tweets which hastily turned blatantly racist, misogynist, and antisemitic.

Max Wesman, Founder & COO of GoodHire has rightly said that:

**“ A key hurdle is acquiring clean, representative data to train AI models. As models are only as good as the data used to develop them, financial institutions must implement many robust data governance processes. Firm must also ensure that sensitive customer data is properly anonymized and protected.”**

The major challenge that come across is to train the AI model and feed the data that is not biased, else the outcome created will not be impartial such as discernment in lending & investment prospects, insurance guaranteeing, credit scoring etc. One more concern at the horizon is data privacy and breach of confidential data. Sowing the generative AI with gigantic amount of sensitive data and securing it from cyber threats is paramount. FIs while investing in generative AI models need to devote maximum resources to hedge the cyber security risk.

Moreover, transparency is also major concern since AI technology provides precise & accurate results in the absence of thorough elucidation. Further, integration of legacy software application used by FIs with AI technologies requires cumbersome investment in infrastructure and human resource. Social & ethical obstacles may also come athwart as the generated outcome might eradicate a particular class of customer from financial services based on programmed & biased statistics leading to unfair treatment.

For FIs that encircle these technologies, the outcome will be at the next level, nevertheless, path forward will require utmost vigilance at ethical, security & regulatory front. As this new regime is set to be a game changer for many FIs in coming times, there is a strong need for a cognizant collaboration between AI experts, policy makers and of course the FIs to bring a true and radical change across the industry systemically.



The writer is an Associate Chartered Accountant working as Vice President, Internal Audit Division, Habib Metropolitan Bank Limited.



# Generative AI: Revolutionizing Investment Analysis in Asian Markets

Mr. Humayun Habib, FCA & Mr. Meeran Malik

The Asian start-up ecosystem is experiencing unprecedented growth, with Pakistan emerging as a vital hub for technological innovation and entrepreneurial activity. As investment opportunities multiply across the region, traditional analysis methods struggle to keep pace with the volume and complexity of start-up evaluations. This transformation calls for innovative solutions that can handle the unique challenges of emerging markets while maintaining the rigor of professional investment analysis.

“ Pakistan's start-up ecosystem has shown remarkable resilience and growth, with investments exceeding \$350 million in recent years ”

**“ An AI-powered investment analysis platform can significantly enhance the decision-making process for chartered accountants and financial analysts when evaluating start-up investments. By leveraging advanced algorithms and machine learning, the platform can analyse vast amounts of financial data, market trends, and economic indicators in real-time. ”**

### The Asian Market Challenge

The Asian investment landscape presents distinct challenges, particularly in emerging markets like Pakistan, where traditional Western evaluation metrics often fall short. With over 3,500 start-ups in Pakistan alone and growing investment activity across South Asia, investment professionals face the daunting task of evaluating numerous opportunities while accounting for unique market dynamics, cultural nuances, and regional economic factors.

#### Pakistan's Start-up Ecosystem: A Case for AI-Driven Analysis

Pakistan's start-up ecosystem has shown remarkable resilience and growth, with investments exceeding \$350 million in recent years. However, local investors and analysts face several challenges:

- Limited historical data for comparable analysis
- Complex market dynamics influenced by local economic conditions
- Resource constraints in conducting thorough due diligence
- Need for rapid evaluation of numerous opportunities
- Difficulty in applying traditional metrics to innovative business models

### Revolutionizing Start-up Investments: How AI Empowers Financial Analysts and Chartered Accountants

An AI-powered investment analysis platform can significantly enhance the decision-making process for chartered accountants and financial analysts when evaluating start-up investments. By leveraging advanced algorithms and machine learning, the platform can analyse vast amounts of financial data, market trends, and economic indicators in real-time.

This enables professionals to gain deeper insights into a start-up's potential for growth and profitability. Additionally, the platform can identify patterns and predict future performance, helping analysts to make more informed and strategic investment decisions. With automated data processing and risk assessment, chartered accountants and financial analysts can focus on higher-level analysis and strategic planning, ultimately leading to more accurate and confident investment choices.

Based on my exposure, I am using Kuanta as a test case example to illustrate the AI revolution in investment analysis.

#### The AI Revolution in Investment Analysis

Enter Kuanta, an AI-powered investment analysis platform that addresses these challenges through advanced technology. The platform combines deep neural networks with sophisticated tensor methods to analyse start-ups across multiple dimensions, particularly suited for emerging markets like Pakistan.

#### Technical Innovation for Market-Specific Challenges

The platform's architecture is specifically designed to address Asian market complexities:

##### Multi-dimensional Analysis

- Evaluates both quantitative metrics and qualitative factors
- Incorporates local market conditions and economic indicators
- Analyses competitive dynamics within regional contexts

##### Customized Evaluation Frameworks

- Adapts to specific market requirements and investor preferences
- Incorporates regional business practices and regulatory considerations
- Accounts for local currency fluctuations and market volatility

##### Transparent Decision Support

- Provides clear reasoning for recommendations
- Maintains audit trails for regulatory compliance
- Offers insights into regional market trends and patterns

### Practical Applications in the Pakistani Context

For Pakistan's growing venture capital and private equity sector, AI-driven analysis offers several advantages:

## ☞ An AI-powered investment analysis platform can be a game-changer for business growth and investments in Pakistan, as well as for fostering broader international trade and investment relationships. ☞

### Enhanced Due Diligence

- Automated analysis of financial statements and business metrics
- Comparison with regional and global benchmarks
- Assessment of market size and growth potential within local contexts

### Risk Assessment

- Evaluation of regulatory and compliance risks
- Analysis of market-specific challenges and opportunities
- Assessment of team capabilities and market readiness

### Market Intelligence

- Tracking of regional investment trends
- Analysis of sector-specific growth patterns
- Identification of emerging opportunities and risks

### Impact on Investment Decisions

Early implementations show promising results:

- 70% concordance with expert analysts
- 60% reduction in initial screening time
- Enhanced ability to evaluate Pakistan-specific market factors
- Improved standardization of evaluation criteria

### Future Implications for Asian Markets

The integration of AI in investment analysis particularly benefits emerging markets like Pakistan by:

- Democratizing access to sophisticated analysis tools
- Reducing barriers to entry for new investors
- Improving transparency in investment decisions
- Facilitating cross-border investments

### Regulatory Considerations

The platform aligns with regulatory requirements across Asian markets, including:

- SECP guidelines in Pakistan
- Regional data protection regulations
- International compliance standards

### Harnessing AI for Business Growth and International Trade in Pakistan

An AI-powered investment analysis platform can be a game-changer for business growth and investments in Pakistan, as well as for fostering broader international trade

and investment relationships. By providing real-time data analysis and predictive insights, such a platform can help Pakistani businesses identify lucrative opportunities and mitigate risks more effectively. This technology can facilitate informed decision-making, enabling businesses to expand their operations and attract foreign investments. Additionally, by leveraging AI, Pakistani companies can better navigate and engage with neighbouring markets in Central Asia and Afghanistan, as well as the ASEAN Plus economic community. This can lead to stronger trade ties, increased market access, and enhanced economic collaboration, ultimately accelerating growth and development in Pakistan's business environment.

The emergence of AI-powered investment analysis platforms marks a significant milestone for Asian financial markets, particularly for emerging economies like Pakistan. These technologies don't just automate existing processes; they enhance the quality of investment decisions while addressing market-specific challenges. As these systems evolve, they will play an increasingly crucial role in developing more efficient, transparent, and sophisticated investment ecosystems across Asia.

The future of investment analysis lies in the successful integration of AI technology with human expertise, particularly in markets where traditional metrics alone may not tell the complete story. For Pakistan and similar emerging markets, this represents an opportunity to leapfrog traditional constraints and build more robust, efficient investment evaluation processes.

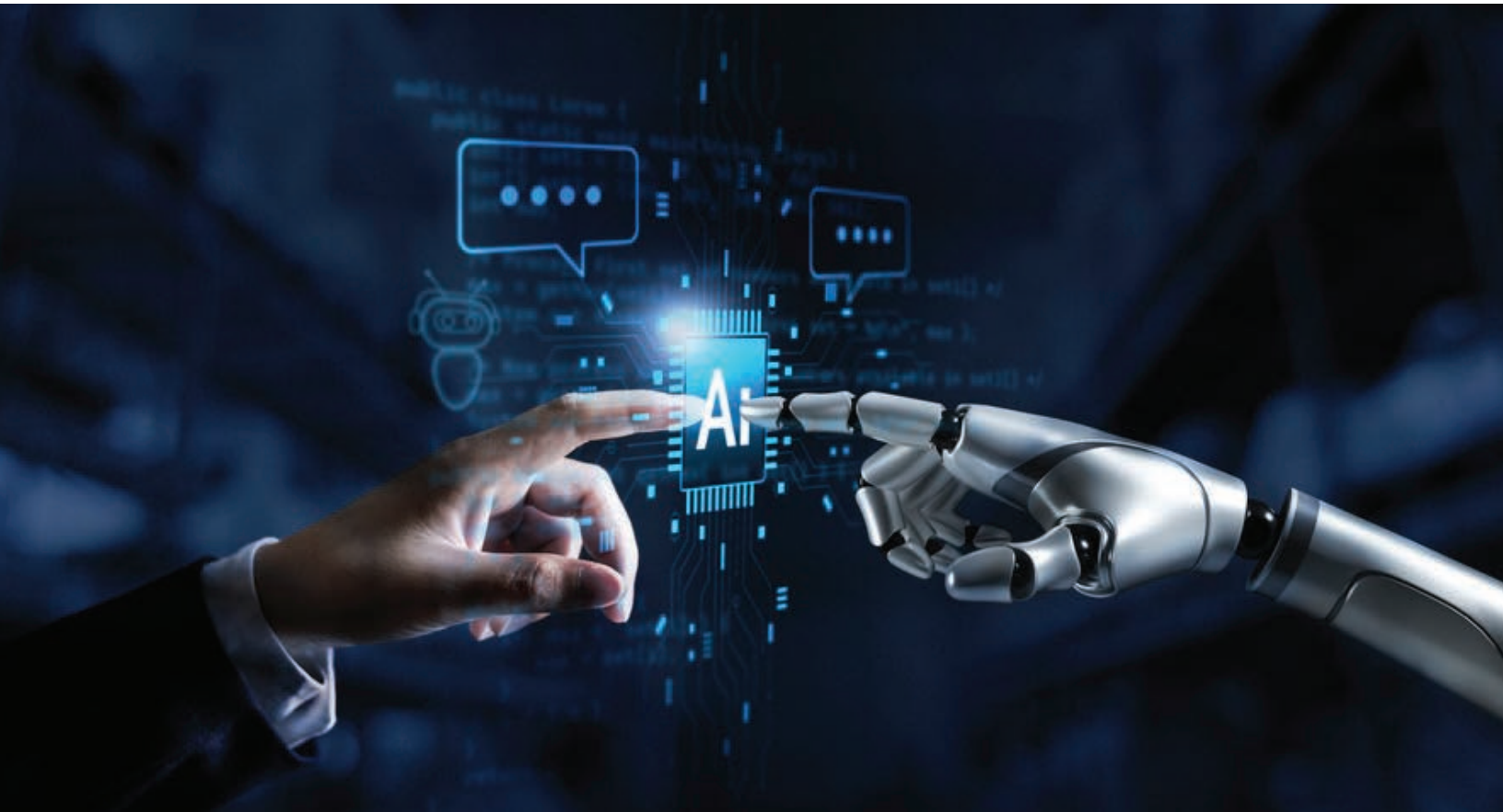
AI can play a pivotal role in attracting foreign direct investments (FDI) to Pakistan by showcasing the country's potential for innovation and growth through enhanced data analysis and improved efficiency. By leveraging AI and fostering a vibrant start-up ecosystem, Pakistan can boost its appeal to foreign investors, driving economic growth and development.



Humayun Habib is a Fellow Chartered Accountant working as a PMO APAC at Cargill, Malaysia.



Meeran Malik is a CEO & Founder at Seedefy, Singapore



# Generative AI: The New Frontier in Finance

Mr. Usman Farooq, ACA

Generative AI is an umbrella term for sophisticated machine learning models that can produce new content and everything from text to images, music, or other complex simulations. In contrast to the AI models built for classification or prediction, generative AIs produce such outputs thanks to algorithms such as Generative Adversarial Networks (GANs) and transformer models (e.g. GPT series) which mimic human creativity.

These capabilities are being applied to various problems within finance, including realistic market scenario generation, customer personalization, and fraud detection. The depth of insights generative AI can provide algorithmic trading is unparalleled by analysing massive datasets, and finding

**In contrast to the AI models built for classification or prediction, generative AIs produce such outputs thanks to algorithms such as Generative Adversarial Networks (GANs)**



**The financial sector has blazed a trail into new technologies as automated trading systems transitioned to use of blockchain. Generative AI is changing this dynamic today, opening the door to new levels of decision-making, operational efficiency and customer engagement. However, generative AI is a transformational technology, and it is becoming the next frontier in finance with unprecedented opportunities as well as emerging challenges.**

patterns so accurately that we can simulate the most likely outcome.

For decades, the financial sector has blazed a trail into new technologies as automated trading systems transitioned to use of blockchain. Generative AI is changing this dynamic today, opening the door to new levels of decision-making, operational efficiency and customer engagement. However, generative AI is a transformational technology, and it is becoming the next frontier in finance with unprecedented opportunities as well as emerging challenges.

### **Why and How Generative AI is Good for Finance**

**Market Modelling:** Predictive Generative AI models shine in replicating complex financial ecosystems and providing simulation for decision-making. AI systems can create hypothetical market scenarios from past data, and then predict how a set of potential movements in the market will affect a trader's stock portfolio by identifying favourable adjustments to strategies ahead of time. It has great utility in portfolio optimization, risk measurement and hedging. For example, GANs provide quasi-realistic stock market simulation enabling the analyst to test the investment strategies in a variety of scenarios. This ensures that the model is not reliant on static historical data and is much more dynamic and forward-looking in its approach. Automation of routine tasks like report generation brings down cost and allows human resources to focus on strategic initiatives.

**Fraud Detection and Prevention:** Fraud immunity as fraud tactics evolve by the day, generative AI helps institutions stay ahead of these attacks, which not only keeps assets safe but also maintains reputation. Fraud is a major issue concerning the financial sector, with development tactics that require an advanced detection mechanism. Detecting fraud faster and more accurately using Generative AI to complement traditional fraud detection. Traditional false alarm detection focuses on rules that determine anomalies in transactional data. By creating artificial datasets of the fraud patterns, AI models will also be able to train algorithms better by preparing systems to identify new and complex threats. It can also simulate fraud scenarios and allows institutions to stress test their security systems. Such simulations offer relevant information to strengthen defences and enhance compliance with regulations.

**Customer Services:** Moving beyond just functional service by personalized services promote customer loyalty and satisfaction & give firms that offer it a competitive edge in developed markets. Generative AI Presents a unique opportunity for the financial industry with an increasing number of companies shifting their focus towards improving customer experience, it's not surprising! Using regression modelling on analytics, Generative AI can create customized advice for investing, financial planning

## Fraud immunity as fraud tactics evolve by the day, generative AI helps institutions stay ahead of these attacks, which not only keeps assets safe but also maintains reputation.

methods along with customer specific communications. Regression modelling is a statistical technique used to understand relationships between variables. In finance, it helps analyse and predict how one variable (e.g., a stock's price) might change based on another (e.g., interest rates). By revolutionizing customer service with Chatbots having AI-powered models (like Chat GPT), such systems provide context-driven, real-time responses, enabling conversational navigation of complex financial inquiries. This type of tailored personalization creates trust with the customer and develops connections.

**Regulatory Compliance and Reporting Adhering:** Regulatory requirements is a vital part of managing finances, Generative AI can make this process seamless by automating report generation and adapting quickly to regulations as they change. AI systems can generate drafts of regulatory reports and identify potential concerns before they are transformed into actual compliance problems, by analysing transaction data. Generative AI also enables institutions to deal with the growing complexity of ESG (environmental, social and governance) reporting by weaving data from disparate sources into holistic narratives.

**Transforming Algorithmic Trading:** Generative AI adapts on-the-fly to new incoming data to develop dynamic algorithms for trading. It provides insights based on complex patterns in the data so a human can make more informed, and accurate decisions. These AI-powered systems, in contrast to static algorithms, are able to react to a sudden and sometimes large drop on the markets maximizing as much profit as possible naturally minimising the risk doing so. Generative AI enables traders to practice their strategies by emulating different market conditions prior to execution of the trade. This allows for a leaner and faster trading operation with less room for human interference.

### Generative AI with Challenges and Risks

Generative AI is also not without its challenges in terms of how to leverage it within finance:

**Data Privacy and Security:** Financial institutions deal with sensitive financial data, so Generative AI need to be implemented in a way that secure the customers and the organisations. Therefore, mishandling or breach of this AI generated content can cause reputational and legal ramifications.

**Bias in AI Models:** AI models are only as free from bias as the data they are trained on. Non-representative or biased datasets may generate unfair results, especially in lending and credit scoring.

**Regulatory Uncertainty:** The regulatory environment for AI in finance is still developing. Balancing between compliance and innovation, organisations have to deal with confusing, sometimes overlapping guidelines.

**Ethics in The Adoption of Generative AI:** It involves ethical controversy concerning accountability, especially in case of automated decision-making. The institutions will need to be clear and open on the AI driven processes.

### Where Generative AI Heading in Finance

Generative AI is only going to develop further, and its uses in finance will continue expanding, its emerging trends include:

**Hyper-Personalization:** More sophisticated AI would allow for deeper personalization of customer interactions, powering a seamless financial experience with real-time behavioural data.

**Decentralized Finance (DeFi):** AI can be used to take DeFi platforms to the next level by building synthetic assets and optimizing smart contracts for better scalability and security. Synthetic assets are digital replicas of real-world financial assets e.g. instead of owning gold, an investor could buy a synthetic asset that behaves like gold in terms of price changes. These help in portfolio diversification without the need for physical ownership

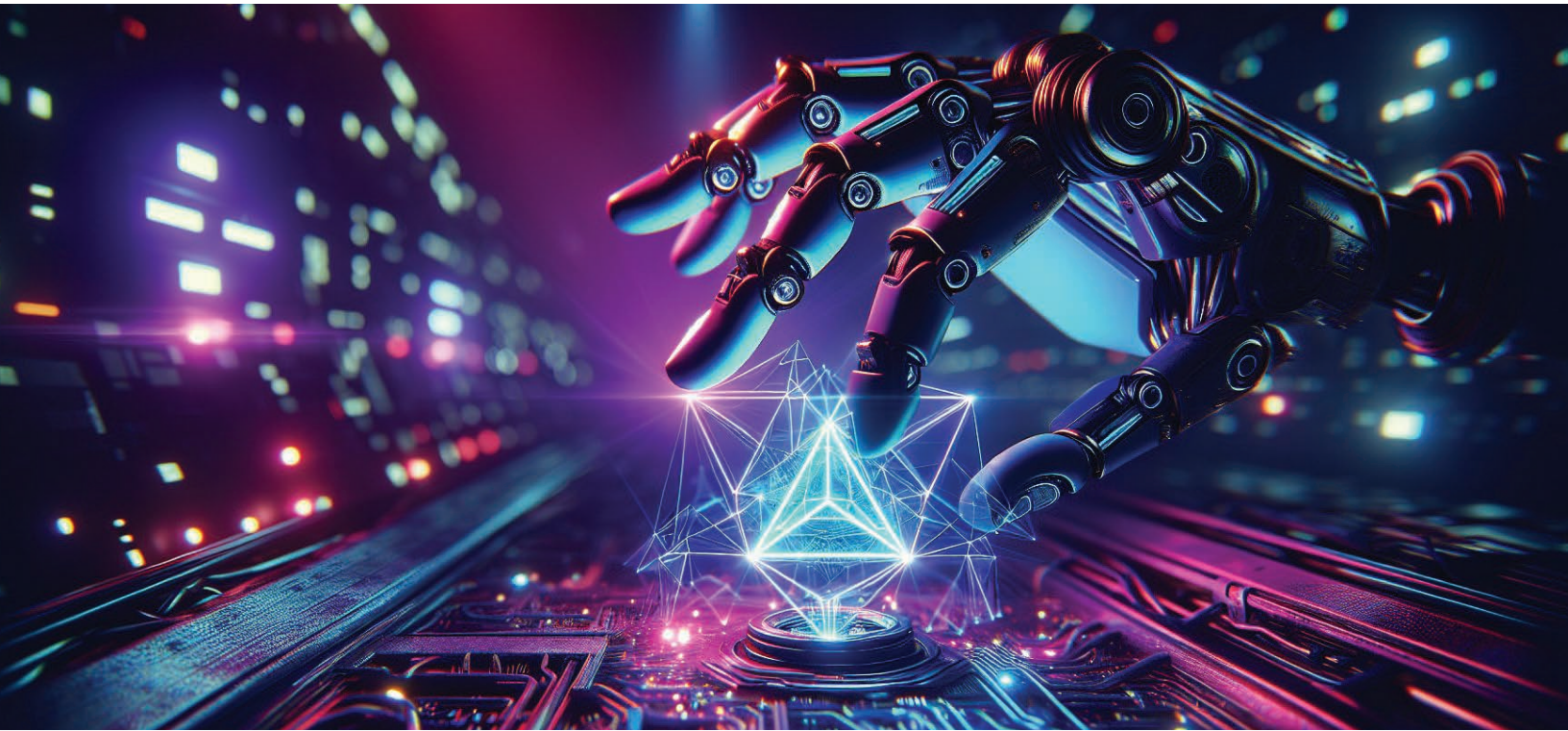
**Green Finance:** We will use analytic solutions powered by AI to assess and incentivize investments that help achieve international climate goals.

Generative AI is a new domain for finance, transforming the way institutions function, compete and innovate. The power to conceive and execute creative solutions by utilizing data presents unprecedented opportunities to drive efficiency, customer experience, and solve critical challenges around fraud and compliance. But there are ethical, regulatory, and technical challenges to overcome to achieve the full promise of generative AI.

With the need to adapt greater than ever, Generative AI is the lighthouse guiding toward a new wave of financial innovation!!!



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# Predicting the Unpredictable: GenAI Transforming Financial Risk Management

Mr. Muhammad Badar UI Munir, FCA

In today's complex financial world, proper risk management is required for financial institutions to be resilient and successful. Sharpening interconnectivity and rising market complexity do not allow traditional strategies in all cases to foretell or ward off emerging threats. Transformatory and full of promise, Generative AI (GenAI) holds for the future in transforming active risk identification and management.

## Understanding GenAI

GenAI comprises models that are capable of learning from existing datasets and generating novel data. Not merely predictive or classification models, generative models may actually create synthetic data, simulate scenarios, and open previously unattainable insights. To put it into perspective, some of those developments are illustrated by Generative Adversarial Networks (GANs) and transformer-based models like GPT-4, which make them good tools for institutions to analyze data and make decisions.

## Practical Applications of GenAI in Financial Risk Management

### Predictive Analytics and Forecasting

In order to forecast better market movements, interest rates, and economic indicators, GenAI is highly skilled at analyzing large datasets and finding trends and patterns. GenAI gives financial organizations the most useful insight into market, interest rate, and economic indicator movements because economics is frequently intimately linked to political stability, currency volatility, and regional trade dynamics.

### Scenario Analysis and Stress Testing

Stress testing and scenario assessments are essential tools for evaluating an institution's resilience. As a wide range of fictitious scenarios, including those specific to emerging markets, are simulated, GenAI improves these procedures. A risk manager can be better prepared for an otherwise unforeseen challenge by using simulations that account for the possible effects of natural disasters, economic sanctions, and regulatory changes.

### Fraud Detection and Prevention

Throughout the world, fraudulent activity poses a major concern. Gen AI-based models can detect minute anomalies and unusual patterns in transaction data as would-be frauds. Adaptive models change according to how the tactics of fraudsters evolve and present a robust defense mechanism against financial crimes.

### Automated Reporting and Compliance

Regulation landscapes must be navigated with careful adherence. GenAI generates compliance reports by extracting relevant data and identifying gaps in its own system while adhering to standards.

### Cyber Risk Management

There has been an increase in cyber risks to digital banking. GenAI uses vulnerability identification and network traffic patterns to forecast possible cyberattacks. Giving the organization advance notice of vulnerabilities enables them to create more defenses and safeguard private data.

### Prevent threats before they happen

Part of effective risk management is the proactive identification of threats. GenAI supports the process through the following:

- **Real-time Data Analysis:** It captures information from sources including economic indicators and social media trends to give immediate market conditions and how customers behave.
- **Pattern Recognition and Anomalies:** This refers to the abnormal behavior which may indicate the existence of underlying risks such as strange trading volumes or an unexpected market shift.
- **Advanced predictive modeling and early warning systems:** Early warning systems can be installed by developing sophisticated models that provide an early prediction of potential events likely to cause risk.

### Benefits of Using GenAI in Risk Management

#### Increased Accuracy and Efficiency

Quick decisions are made possible by GenAI's ability to evaluate complicated datasets, which is challenging for humans to accomplish. GenAI also takes a lot less time to detect and evaluate risks.

#### Scalability

Since institutions grow, so does the volume and complexity of the data. GenAI scales transparently to expanding data needs, thereby not compromising risk management processes.

#### Cost-Effectiveness

Automating routine tasks and improving prediction accuracy can significantly reduce operational costs because resources can be delegated elsewhere more strategically into areas that require human expertise.

#### Enhanced Decision-Making

GenAI provides in-depth and detailed analysis; therefore, it is very effective when good judgment is required. The above scenarios will aid institutions in forming appropriate risk-mitigating policies under a certain market scenario.

### Challenges and Concerns

While GenAI brings many benefits, implementing it has several challenges:

- **Data Quality and Availability:** Complete, high-quality data is essential for effectiveness.
- **Ethical Considerations and Bias:** AI algorithms replicate the same biases found in training data. Therefore, preserving fairness and integrity in the outcomes depends on appropriate ethical use and bias reduction.
- **Integration with Existing Systems:** Since GenAI integration frequently necessitates financial commitment and technological advancement, it might be difficult.
- **Regulatory Compliance:** To prevent legal ramifications, it is crucial to make sure AI-driven processes adhere to legislation.
- **Skill gaps and training:** GenAI calls for the deployment of specific skills. To benefit from AI technologies, institutional training and capacity building must be implemented.

### Future Trends

GenAI has the future prospects in financial risk management as promising:

- **Advanced Explainability:** Transparency of AI systems would gain greater importance as an enhancement, wherein visible reasons and judgments are given in giving the assessment, which would be accountable and trustworthy.
- **Integration with Blockchain:** Integration with GenAI will further add to data security and integrity, providing a very robust framework.
- **Autonomous Risk Management Systems:** AI systems could be even more autonomous in their operation, continually monitoring risks in an autonomous manner.
- **Joint AI Models:** Shared insights are collectively managed across institutions to reduce the risks associated with the financial ecosystem.
- **Localized AI Solutions:** AI models trained on local data would encourage greater relevance and precision, mainly by capturing unique economic, cultural, and regulatory nuances.

### Conclusion

GenAI is the most potent force behind changing financial risk management practices. They can provide deliverability in terms of proactively identifying and countering the threat. In contrast, help in real-time data analysis, predictive modeling, and advanced pattern recognition can enhance resilience against a spectrum of risks. While such issues prevail, including data quality, ethical considerations, and regulatory compliance, there are many benefits in the form of GenAI promoting proactive and robust risk management frameworks. As markets like Pakistan embrace this process of emerging digitization, GenAI will make huge differences in the future of financial stability and growth.



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# The Future of AI: A Dual-Edged Sword of Opportunity and Threat

Syed Imtiaz Abbas Hussain, FCA

**Generative AI is a multi-beneficial tool for the businesses, individuals, societies and nation to cautiously grow as it also poses risk of fraud**

Generative AI is a branch of artificial intelligence that focuses on creating new content, designs, or ideas through machine learning algorithms. Unlike traditional AI systems that rely on predefined rules, it uses vast amounts of existing data to generate original and innovative outputs. By analysing patterns and learning from existing data, Generative AI models can create new media, text and audio generation,

mimicking human-like responses, leading GPT series and BERT models, realistic images, music, text, and more. So Generative AI is a double-edged sword having pros and cons. While it empowers creativity, innovation, customers' effective communication, enhanced productivity and profitability, it also increases data security risks and weakness that can be exploited for fraudulent purposes.

## Generative AI is a double-edged sword having pros and cons. While it empowers creativity, innovation it also increases data security risks and weakness that can be exploited for fraudulent purposes

### Benefits of Generative AI

Generative AI has multi-benefits for many sectors of the society, businesses and industries which include:

- It enables businesses to generate creative and engaging content on a large scale and also reducing the need for extensive manual creative work. Using DALL-E, one can describe a concept or scenario, and the model would generate a corresponding image;
- It accelerates processes by automating repetitive tasks that previously required human intervention, enabling teams to focus on the work of higher value. Generative AI improve productivity, enhance overall business operations, saves valuable time and reduces operational costs as a result improve profitability;
- Personalization is the key to engaging and retaining customers, and this is where the benefits of generative AI come to the forefront. It can be used to hyper-personalize the customer experience by analysing customer data and generating customized product recommendations, and offers based on individual preferences. Moreover, when it comes to customer support via voice automation, it can enable e-commerce brands to provide customer support in dynamically changing personalized voices that will take the frustration out of the support experience and make experiences more human-like. Generative AI and conversational AI are two interrelated yet distinct fields that have a significant impact on the customer experience. This combination empowers organizations to build stronger relationships with customers, drive loyalty, and gain a competitive edge;

With generative AI, businesses can automate complex and time-consuming processes, enabling them to optimize workflows, improve efficiency, and allocate resources effectively;

- It presents a compelling use case in the domain of data synthesis. By leveraging its ability to analyse diverse datasets, AI models can synthesize large amounts of data and generate valuable insights. By harnessing the power of data synthesis, generative AI empowers organizations across various sectors to unlock actionable intelligence and gain a competitive edge;
- It enables the creation of realistic simulations that can be

used in various fields such as training, entertainment, and research;

- Generative AI systems can continuously learn and adapt based on feedback and new data. This capability allows the models to improve their performance over time and generate outputs that align better with user preferences and objectives;
  - It can facilitate knowledge discovery by mining and extracting insights from diverse sources. Furthermore, it can automatically organize and categorize vast amounts of knowledge assets;
  - It can analyse network data and user behaviours to identify suspicious activity;
- On-device AI can help protect users' privacy by keeping queries and personal information on the device;
- It can help individuals in many ways, including: experimenting with ideas; analysing data; unlocking new areas of creativity; and saving time and money on Creative Cloud;
  - It can benefit society as a whole by: helping the less skilled people; automating some of the activities that save substantial time of employees; and changing the structure of the work;
  - Some industries like consumer, cyber security, finance, health care, banking, high tech, life sciences and manufacturing can use generative AI for unique cases relevant to their needs;

### Risks posed by Generative AI

While generative AI has immense benefits it also exposes serious risks, which include:

- Fraudsters exploit deepfake technology to manipulate transactions, gain unauthorized access, and compromise sensitive data;
- It can raise ethical concerns related to intellectual property rights, authenticity, and bias. Biased training data can lead to biased outputs, which can impact fairness and inclusivity;
- It can be used to create Deepfakes or spread misinformation which convincingly alter audio, video, or

## It is essential to use generative AI as a supporting tool for generating ideas and inspiration rather than relying solely on Gen AI for content creation

images, making it challenging to discern between genuine and manipulated content, so can pose security risks;

- It can automate creative and analytical tasks, which could lead to job displacement in those sectors;
- Generative AI systems rely on training data to learn and generate outputs. If the training data is incomplete, biased, or outdated, it can impact the accuracy and reliability of the generated content;
- It may produce unexpected or undesirable outputs, requiring human intervention for verification and refinement;
- Generative AI models are often complex and difficult to interpret, which can be problematic in critical applications;
- It consumes significant energy, which can contribute to environmental challenges;
- There is a potential risk of diminishing critical thinking skills if users depend too heavily on AI-generated content without scrutiny;
- Real-life AI risks. There are a large number of risks to do with AI that we deal with in our lives today. Not every AI risk is as big and worrisome as killer robots or sentient AI. Some of the biggest risks today include things like consumer privacy, biased programming, danger to humans, and unclear legal regulation.

### Measures to Protect from Risks Posed by Generative AI

There is a need to develop effective countermeasures to mitigate the risks posed by Generative AI. Few of the countermeasures to mitigate the risks include:

- To mitigate the rising threat of Deepfakes, use models of Deepfake Detection Techniques, Enhanced Identity Verification, and KYC++ in Trust Decision;
- AI governance tool and LLM security tool can mitigate the risks of generative AI projects;
- Mitigating the accuracy risks of generative AI requires a combination of technical and procedural strategies, such as Data quality and diversity, Regular model updates, External verification and User training;
- Mitigating the bias risks, use Diverse training data,

- Continuous monitoring and evaluation, and Ethical guidelines and oversight models;
- Steps to mitigate data privacy and security threats includes Differential privacy, Synthetic training datasets, Data masking and Regular audits and scrutiny;
- Clear guidelines and policies, Collaborative efforts, and technological solutions are the steps to be taken to mitigate the risk pose for traditional intellectual property norms and regulations;
- Stakeholder engagement, Transparency initiatives, Ethical guidelines are the solution to mitigate ethical risks of generative AI;

Generative AI has the power to turbocharge opportunities, if used correctly. Generative AI could add up to US\$20 trillion to global GDP by 2030 and save 300 billion work hours a year with high productivity and profitability.

However generative AI is not a replacement for human creativity because it can't generate new ideas or solutions as human do, as AI systems are based on pre-existing data and rules. It is essential to use generative AI as a supporting tool for generating ideas and inspiration rather than relying solely on Gen

### AI for content creation.

As businesses explore the potential integration of the technology and weigh the pros and cons of generative AI, three key aspects come to the forefront: assessing the business fit, implementation strategy, and navigating compliance and governance requirements. Generative AI is neither inherently good nor bad. It is a tool that can be used for both beneficial and harmful purposes, depending on how it is developed and used. It's important for businesses and consumers to use generative AI tools in an advisory way, leaving any final decision-making to humans.



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# Revolutionizing Finance with Generative AI

Mr. Jalal Anwar Brohi, ACA

Chartered Accountants ought to be well-equipped in managing the complexities of enterprise-wide digitization, for which Chartered Accountants may use Generative AI (GenAI), which is a game-changing technology with the potential to revolutionize the financial world by altering finance operations and achieving new levels of efficiency, accuracy, and insights.

**Here's how Generative AI is changing the financial landscape:**

### Generating Synthetic Data

Financial organizations can use GenAI to create synthetic

data that complies with privacy laws prevalent in Pakistan, like the Prevention of Electronic Crimes Act, 2016, and Personal Data Protection Act, 2021. GenAI algorithms can produce synthetic datasets that closely mimic the actual data by identifying patterns and relationships in real financial data, without risking customer data privacy or breaching data regulations.

### Portfolio Management

GenAI models can assist investors and portfolio managers in determining the best asset and wealth management strategies by evaluating past financial data and producing



## GenAI models can assist investors and portfolio managers in determining the best asset and wealth management strategies by evaluating past financial data and producing many investment scenarios, accounting for elements like risk tolerance, expected returns, and investments avenues

many investment scenarios, accounting for elements like risk tolerance, expected returns, and investments avenues.

### Price and Underwriting

GenAI can assist lenders and insurers in creating dynamic pricing models that change instantly in response to fresh information, changing market conditions, and unique consumer behaviour. GenAI that generates several risk scenarios can assist underwriters in evaluating possible outcomes and determining suitable interest rates or premiums.

### Fraud Detection

By creating artificial examples of illegal transactions or behaviours, GenAI can be used to detect financial frauds. Machine learning algorithms can be trained and enhanced with the aid of these produced samples to identify and distinguish between authentic and fraudulent patterns in financial data.

### Sentiment Analysis

A Natural Language Processing technique called sentiment analysis classifies texts, photos, or videos as

either neutral, positive, or negative based on their emotional tone. Businesses can create plans to improve their services or products by learning more about the feelings and views of their customers.

Through social media posts, news articles, and other sources, entities can use sentiment analysis to gauge consumer happiness and brand reputation.

### Synthetic Training Data

GenAI may produce artificial examples of fraudulent activity, which aids in the training of more accurate detection algorithms because actual fraudulent transactions are uncommon.

### Generating Financial Reports

Based on the facts at hand, GenAI can automatically produce financial performance reports that are organized, logical, instructive, uniform, and accurate.

### Responding to Financial Enquiries

GenAI can deliver precise and thorough answers to users' financial questions by utilizing its comprehension of human language patterns and its capacity to produce logical, contextually relevant responses. GenAI models can be trained on big financial knowledge datasets to provide relevant answers to a variety of financial questions on subjects like accounting principles, financial ratios, stock analysis, risk management, and regulatory compliance.

### Algorithmic Investing and Trading Methods

GenAI models, like as Variational Autoencoders (VAEs) or Generative Adversarial Networks (GANs), may create synthetic data that replicates actual market situations and model intricate financial linkages. Trading algorithms can be tested and improved using this synthetic data, which lessens the need for just historical data.

### Credit Risk Modelling

GenAI models can generate fictitious borrower profiles to test the resilience of credit risk models and improve the accuracy of credit scoring and default forecasts.

### Analysis of Scenarios

With the use of GenAI models, traders and portfolio managers can better comprehend the risks and rewards in a variety of global financial market scenarios.

### Modernization of Applications

Financial Institutions update their software regularly, since they don't want to be dependent on antiquated systems. Software developers may validate the new software and save a great deal of time by using enterprise GenAI models to transform code from outdated software languages to more current ones.

### Macroeconomic Simulations

By simulating diverse economic situations and their effects on global financial markets, GenAI models assist financial institutions and policymakers in making plans for a range of future events.

### Anomaly Detection

GenAI models can be trained to comprehend typical transaction patterns and generate data points that represent outliers or anomalies, which aid in identifying abnormal financial transaction patterns that may indicate money laundering or potentially fraudulent activities.

### Automation of Accounting Functions

GenAI models assist finance departments in automating tasks like maintaining ledgers, preparing accounts, conducting audits, invoice capture and processing etc. With deep learning algorithms, accounting-specific GenAI models can achieve high levels of automation in majority of accounting processes.

### Financial Forecasting and Analysis

GenAI models can generate predictions about future trends, asset prices, and economic indicators by learning from historical financial data and identifying intricate patterns and relationships.

### Responding to Regulators' Requests

Financial institutions are highly regulated industry participants; therefore, regulatory authorities frequently enquire about them. GenAI significantly enhances efficiency and accuracy by automating and refining processes such as regulatory document analysis, compliance monitoring and risk management.

### Product Development

GenAI can create customized investment portfolios by analyzing the financial objectives, interests, and characteristics of individual investors. This is especially helpful for financial management systems and robo-advisors. Based on individual risk profiles, GenAI may produce customized insurance policies with distinct terms and prices for various clients.

### Analysis of Documents

In order to facilitate more effective analysis and decision-making, GenAI can be used to filter, summarize, and extract meaningful information from vast amounts of financial data, including annual reports, financial statements, and earnings calls.

### Forecasts for the Financial Markets

GenAI can increase the precision of financial projections, particularly those involving stock prices, interest rates, and economic indicators, by analyzing vast amounts of data.

### Risk Management Using Stress Testing

Financial institutions can better prepare for rare but important events by using GenAI to simulate extreme financial market conditions not seen in historical data.

### Personalized Indices

To gain a better understanding of the possible effects on portfolio performance, GenAI models can replicate various market conditions, economic contexts, and events. This makes it possible for financial experts to optimize risk-adjusted returns, create and improve their investment strategies, and make better decisions regarding portfolio management.

### Scenario-Based Reporting

Financial institutions may make sure they meet all the compliance criteria under a variety of conditions by using GenAI to generate reports and simulate alternative regulatory scenarios.

### Creating Applicant-Friendly Denial Explanations

GenAI holds a pivotal role in loan decision-making processes by enabling financial institutions to analyze consumers' creditworthiness, estimate suitable credit limits, and set risk-based loan pricing. However, both decision-makers and loan applicants require detailed explanations of GenAI-based judgements, such as reasons for application denials, in order to foster trust and raise client awareness for future applications.

### Maintenance of Legacy Software

Financial Institutions continue to use software that were created in legacy programming languages like COBOL in the 1970s and 1980s. Legacy language developers are hard to come by, but these programs must be kept up to date. Fluent in all programming languages, GenAI models can accelerate software development and lower technology costs, which account for about 10% of a typical financial institution's overall expenses.

### Conversational Finance

GenAI models can deliver more realistic and contextually appropriate responses since they are trained to recognize and construct human-like language patterns. As a result, GenAI may greatly improve the performance and user experience of financial conversational AI systems and chat-bots by allowing for more



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# The AI Revolution in Accounting

Mr. Mudassar Ahmed, ACA

The financial sector has changed dramatically over the years due to advances in technology. From computerized accounting to sophisticated ERP systems, technology plays an important role in financial decision-making. Today, we face another revolution: generative artificial intelligence (AI). For chartered accountants, the development of artificial intelligence presents both opportunities and challenges, and understanding its impact is critical to staying competitive in this changing environment.

## What is generative artificial intelligence?

Generative AI refers to the field of artificial intelligence that uses machine learning to generate content. Unlike traditional AI systems that analyse data and produce results based on defined data, AI versions generate new information, such as text, images, audio, or financial forecasts.

“Generative AI is indeed the new frontier, and the journey toward mastering it begins today. Instead of spending hours preparing reports, Chartered Accountants can use AI tools to build original, editable versions.”

# Generative AI can create a series of “what-if” scenarios to assess the impact of different strategic investments, allowing decision-makers to better manage the unproductive. ”

For example, OpenAI’s GPT and Google’s Bard are examples of artificial intelligence machines that can produce human-like information for applications such as reporting, risk assessment, and tax calculations. This capability makes AI attractive to financial professionals, who often work with large data sets and require accurate, immediate insights.

Application of generative artificial intelligence in the financial field

## Financial Reporting and Analysis

Generative artificial intelligence can improve the performance of financial reporting. It can help in:

- Writing financial reports: Instead of spending hours preparing reports, Chartered Accountants can use AI tools to build original, editable versions.
- Build interactive dashboards: Generative AI combined with tools like Power BI can provide better ways to visualize financial data to make better decisions.

By automating repetitive tasks, CA’s can focus on process analysis rather than data collection.

## Budgeting and Forecasting

Budgeting is an important function for all organizations. Generative AI advances this process through:

- Predictive modelling: It can analyse past history to predict the future with great accuracy.
- Scenario planning: Generative AI can create a series of “what-if” scenarios to assess the impact of different strategic investments, allowing decision-makers to better manage the unproductive.

For example, manufacturing companies can use artificial intelligence to predict the price of raw materials based on price trends, global economic trends, and trends.

## Auditing and Risk Management

The auditor’s job is becoming increasingly difficult due to the increasing number of regulations and the volume of information. Generative AI can help with:

- Risk analysis: AI models can analyse large data sets to identify possible errors or fraud.
- Accounting documentation: Generative AI can improve accounting documentation, saving time and increasing consistency. For internal auditors, this means moving from manual testing to a systematic, data-driven approach.

## Improve Client Communications

AI-driven tools can help chartered accountants improve client communications by creating:

- Personal reports: summaries of individual clients’ personal financial activities.
- Instant solutions: AI-powered chatbots can generate queries, improve response times and customer satisfaction.

This allows CAs to focus on building strong relationships with clients rather than being busy with administrative tasks.

## Benefits of Generative AI for Chartered Accountants

- **Increased Efficiency**  
By automating repetitive and time-consuming tasks, generative AI frees up time for Chartered Accountants to focus on more important tasks such as planning and communication.
- **Decision Control**  
AI-driven insights ensure decisions are based on accurate, immediate data, reducing the risk of errors.
- **Competitive Advantage**  
Chartered accountants using artificial intelligence can differentiate themselves by delivering smarter solutions and delivering greater value to their clients.
- **Cost Savings**  
Standardization reduces operating costs, reduces customer service, and maintains profitability.

## Challenges and Warnings

Although the AI has great potential, it is not without its challenges.

- **Data Privacy and Security**  
Chartered Accountants deal with sensitive financial

For every auditor, the message is clear: Embrace the change or be left behind. By harnessing the power of productive intelligence, accountants can move from traditional accountants to strategic advisors, creating value for their clients and organizations like never before. Generative AI is not a replacement for the expertise and judgment of Chartered Accountants but a tool to augment their capabilities. ””

information. The use of AI tools requires data protection measures to prevent breaches and ensure compliance with regulations such as GDPR and local privacy laws.

- **Ethical Issues**  
Generative AI may produce misleading or misleading results, especially when trained with incomplete or distorted information. For chartered accountants, there are questions about the reliability of AI analysis.
- **Dependence on Technology**  
Over-reliance on artificial intelligence tools will lead to the decline of accounting technology. It is important for a chartered accountant to maintain a balance between applying technology and maintaining core competencies.
- **Skills and Competencies**  
Not all financial professionals are adept at using artificial intelligence. Closing the skills gap through education and

skills development is critical to unlocking the full potential of artificial intelligence. This is where the role of ICAP comes into play, ICAP must ensure that their students and members are fully equipped to cope with rapidly changing technological environment.

### How Can Chartered Accountants Prepare for the AI Revolution?

- **Upskill in AI and Data Analytics**  
Chartered Accountants should invest in learning the basics of AI, machine learning, and data analytics. Certifications in these areas can provide a competitive edge.
- **Adopt a Strategic Mindset**  
Rather than viewing AI as a threat, Chartered Accountants should embrace it as a tool to enhance their strategic contributions to organizations.
- **Focus on Value Addition**  
As routine tasks become automated, Chartered Accountants should focus on areas where human judgment is irreplaceable, such as strategic planning, ethical decision-making, and leadership.
- **Collaborate with IT Teams**  
Understanding the technical aspects of AI requires close collaboration with IT professionals to ensure the successful implementation of AI-driven solutions

### The Road Ahead

Artificial intelligence is not just happening; it is a paradigm shift in the way financial professionals do their jobs. For the accounting community, the combination of AI and economics presents a unique opportunity to redefine the profession.

As AI progresses, regulators will need to update their practices to incorporate behavioural and AI applications into their programs. Therefore, companies should invest in AI tools and train their employees to use them effectively.

For every auditor, the message is clear: Embrace the change or be left behind. By harnessing the power of productive intelligence, accountants can move from traditional accountants to strategic advisors, creating value for their clients and organizations like never before.

Generative AI is not a replacement for the expertise and judgment of Chartered Accountants but a tool to augment their capabilities.



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# The Impact of Artificial Intelligence on Finance

Mr. Sikander Iqbal, ACA

Artificial Intelligence (AI) is no longer a concept of the future; it has firmly established itself as a transformative force across industries, including finance. In a sector driven by data, precision, and speed, AI's ability to process vast amounts of information, uncover patterns, and generate predictive insights is reshaping the way financial professionals operate. From enhancing risk management frameworks to revolutionising customer engagement, AI is redefining the finance landscape.

## Advancing Financial Analysis and Forecasting

In the realm of financial analysis, AI-powered tools have become indispensable. Software like Kensho and AlphaSense enables analysts to rapidly process complex datasets, identify investment opportunities, and forecast market trends with unprecedented accuracy. Consider an investment manager responsible for asset allocation in a volatile market. Using AI, they can analyse historical data, real-time news sentiment, and macroeconomic indicators simultaneously, yielding insights that would be impractical to achieve manually. AI's ability to analyse high volumes of data at lightning speed ensures more informed and timely decisions.

For example, predictive models driven by machine learning can anticipate credit risks, aiding lenders in extending credit judiciously. Such advancements in forecasting enhance a firm's capacity to respond to market conditions, minimising exposure to volatility.

## Transforming Customer Engagement in Finance

Customer service has long been a cornerstone of financial services, and AI has elevated its effectiveness. Tools such as Bank of America's Erica or ClearScore's AI advisor streamline customer interactions by providing instant responses to queries, tailored financial advice, and guidance through digital platforms. Imagine a client querying their recent spending trends via their banking app. Rather than navigating complex menus or waiting for a representative, they receive an immediate and precise breakdown of their expenses. These AI-powered tools deliver personalised experiences, ensuring high client satisfaction and operational efficiency.

Furthermore, AI's capacity to learn from interactions allows

financial institutions to deepen their understanding of customer preferences, enabling them to design bespoke financial products and services.

## Revolutionising Fraud Detection and Risk Management

Fraud and risk management have always been priorities in finance, and AI has significantly bolstered these efforts. By analysing patterns in transactional data, AI systems can detect anomalies indicative of fraudulent behaviour in real-time.

For instance, Mastercard utilises machine learning algorithms to flag irregular spending patterns, such as multiple transactions in disparate locations within a short timeframe. AI's adaptability ensures that its fraud detection capabilities improve continuously as it processes more data.

In credit risk assessment, AI enhances decision-making by identifying nuanced patterns in borrower behaviour, often overlooked in traditional models. This enables lenders to refine their credit underwriting processes, reducing defaults while expanding access to finance for underbanked segments.

## Algorithmic Trading: Speed and Precision

Algorithmic trading, or algo-trading, is a prime example of AI's impact on capital markets. Leveraging machine learning, AI analyses market data, identifies trading opportunities, and executes trades with precision, often within milliseconds.

For example, hedge funds and proprietary trading desks utilise AI to optimise strategies based on historical price movements, real-time market conditions, and predictive analytics. Such systems eliminate human biases and emotions from trading, leading to more consistent outcomes. However, the rise of algo-trading is not without its challenges. Instances of flash crashes sudden, sharp market declines, highlight the risks posed by unchecked algorithmic behaviour. Regulators are increasingly scrutinising such practices to ensure market stability.

## Ethical Challenges: Navigating Bias and Transparency

While the benefits of AI are significant, the ethical implications of its use cannot be overlooked. Algorithmic bias, where AI systems perpetuate historical inequities present in training data, remains a critical concern. For example, AI models trained on discriminatory lending practices could inadvertently deny credit to certain demographics.

Transparency is another pressing issue. Many AI algorithms operate as a "black box," offering little clarity on how decisions are made. This poses challenges for financial institutions aiming to maintain accountability and trust, especially in regulated environments.

Addressing these issues requires robust governance frameworks, regular audits of AI systems, and adherence to

ethical principles such as fairness and inclusivity. For instance, ensuring that AI models are stress-tested against diverse datasets can mitigate biases, while explain-ability tools can demystify decision-making processes.

## Challenges in Implementation

The adoption of AI is not without its hurdles. Cost remains a significant barrier, with firms needing to invest heavily in infrastructure, training, and integration. Additionally, data privacy regulations such as GDPR necessitate rigorous safeguards to protect sensitive customer information.

Resistance to change among employees is another challenge. While AI can automate routine tasks, it cannot replace the nuanced judgment and expertise of finance professionals. Organisations must focus on upskilling their workforce to work alongside AI, fostering a collaborative human-AI dynamic.

## AI's Future in Finance

Looking ahead, AI's role in finance will only deepen. Emerging technologies such as natural language processing (NLP) and reinforcement learning are unlocking new possibilities, from automated regulatory compliance (RegTech) to advanced fraud prevention.

For instance, AI could soon be capable of performing real-time anti-money laundering (AML) checks by analysing transactional networks and identifying hidden links to illicit activities. Similarly, predictive models could guide policymakers by simulating the economic impact of potential regulatory changes.

Firms that proactively embrace AI's potential while addressing its challenges will be best positioned to thrive in this evolving landscape.

AI has ushered in a new era for finance, bringing unparalleled efficiencies and opportunities. From revolutionising financial analysis to enhancing fraud prevention, its benefits are undeniable. However, navigating the ethical and operational challenges posed by AI will require diligence, transparency, and a commitment to upholding trust and fairness.

As stewards of the financial profession, it is incumbent upon us to harness AI responsibly, ensuring it serves as a tool for innovation while safeguarding the principles of integrity and accountability. The future of finance is undoubtedly intertwined with AI, and by embracing this technology thoughtfully, we can create a more resilient, equitable, and prosperous financial ecosystem.



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# From Automation to Innovation: How Generative AI is Reshaping Pakistan's Finance Industry

Mr. Masood Zaman, ACA

The world of finance is undergoing a seismic transformation, with technology leading the charge. Among the most transformative innovations is generative artificial intelligence (AI), a subset of AI that has the potential to redefine how financial institutions operate, innovate, and compete. Globally, generative AI is making waves across financial services, from investment banking and asset management to insurance and retail banking. In Pakistan, a country with a burgeoning fintech ecosystem, the adoption of generative AI is gradually picking up momentum, albeit with unique challenges and opportunities.

## What is Generative AI?

Generative AI refers to algorithms, often based on deep learning techniques like neural networks, that create new content. Unlike traditional AI models that analyse data to make predictions, generative AI can produce text, images, music, or even entire datasets. Popular models like Open AI's GPT and Google's Bard exemplify this technology.

In finance, generative AI's capabilities extend beyond content creation. It can:



**AI models that analyse data to make predictions, generative AI can produce text, images, music, or even entire datasets. Popular models like Open AI's GPT and Google's Bard exemplify this technology.**

- Generate synthetic financial data for testing models.
- Create personalized customer interactions through natural language processing.
- Automate and enhance decision-making processes in trading, risk management, and compliance.

### Generative AI in Global Finance

Globally, financial institutions are rapidly integrating generative AI into their operations. The technology is proving to be a game-changer in areas such as:

#### Customer Experience and Personalization

Generative AI can create hyper-personalized experiences for customers. Virtual assistants powered by AI provide instant, human-like responses to customer queries. By analysing customer preferences and transaction history, these tools can recommend tailored financial products, improving customer satisfaction and loyalty.

#### Fraud Detection and Risk Management

Generative AI can simulate fraudulent transactions to train predictive models, enhancing fraud detection systems. It also improves risk assessment by generating scenarios to test the resilience of investment portfolios against market volatility.

#### Algorithmic Trading

Generative AI is making algorithmic trading more sophisticated. It can simulate market behaviours and generate trading strategies, enabling traders to anticipate trends and execute profitable trades. AI-driven funds are outperforming traditional ones by leveraging real-time data and predictive analytics.

#### Regulatory Compliance

Compliance is a significant burden for financial institutions. Generative AI automates the generation of compliance reports and monitors transactions for suspicious activities, reducing the cost and complexity of adhering to regulations.

#### Document and Report Automation

From generating financial reports to drafting loan agreements, generative AI reduces manual effort and

minimizes errors. Tools like Chat GPT are increasingly being used to create professional and regulatory-compliant documents.

### Key Drivers of Generative AI Adoption in Finance

Several factors are driving the global adoption of generative AI in finance:

- **Data Availability:** Financial institutions have access to massive datasets, essential for training and deploying generative AI models.
- **Advances in Computing:** Cloud computing and specialized hardware like GPUs have reduced the cost and complexity of deploying AI systems.
- **Competitive Pressure:** The growing demand for efficiency and innovation is pushing financial firms to embrace cutting-edge technologies.
- **Consumer Expectations:** Modern consumers demand fast, personalized, and seamless financial services, which generative AI is well-positioned to deliver.

### Generative AI in Pakistan's Financial Sector

Pakistan's financial sector, traditionally dominated by banks, is witnessing a digital transformation spurred by fintech start-ups, mobile banking, and increasing smartphone penetration. Although the adoption of generative AI in Pakistan is still in its infancy, its potential impact is immense.

The following trends and developments highlight how generative AI is evolving in the country:

#### Improving Financial Inclusion

One of the biggest challenges in Pakistan's financial ecosystem is low financial inclusion, with a significant portion of the population lacking access to banking services. Generative AI can bridge this gap by powering conversational banking systems in Urdu and regional languages, enabling rural and underbanked populations to access financial services seamlessly.

#### Transforming Customer Support

Banks and fintech companies in Pakistan are leveraging AI-powered chatbots to improve customer support. These chatbots, enhanced by generative AI, can provide 24/7 assistance, handle complex queries, and engage users in natural, conversational interactions.

#### Driving Fintech Innovation

The fintech sector in Pakistan is growing rapidly, with start-ups offering digital wallets, peer-to-peer lending, and payment gateways. Generative AI can help these companies innovate further by developing personalized financial products and services, enhancing user interfaces, and automating routine processes.

#### Enhancing Risk Management

Pakistan's financial institutions face risks such as loan defaults and market volatility. Generative AI can assist in creating predictive models to assess creditworthiness and

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simulate adverse economic scenarios, helping banks manage risks more effectively.

#### Boosting Regulatory Compliance

Compliance with regulations such as anti-money laundering (AML) and know-your-customer (KYC) is a significant challenge for Pakistani banks. Generative AI can automate KYC document processing and improve fraud detection systems, ensuring better compliance with local and international standards.

#### Education and Awareness

As awareness about generative AI grows, Pakistani universities and tech hubs are beginning to introduce AI-focused programs. This growing pool of talent could accelerate the adoption of generative AI in the financial sector.

### Challenges to Generative AI Adoption in Pakistan

Despite its potential, the adoption of generative AI in Pakistan faces several challenges:

**Limited Infrastructure** - High-performance computing infrastructure required for generative AI is scarce in Pakistan. Cloud services are still developing, and the cost of implementing AI systems can be prohibitive for many organizations.

**Data Scarcity** Financial institutions in Pakistan often lack the large, high-quality datasets necessary for training generative AI models. Privacy concerns and limited digitization further exacerbate this issue.

**Regulatory Uncertainty** - Pakistan's regulatory framework for AI and fintech is still evolving. Unclear policies can deter financial institutions from investing in generative AI technologies.

**Talent Gap** While Pakistan has a growing tech workforce, expertise in advanced AI technologies like generative AI is limited. Building a skilled talent pool is critical to driving adoption.

**Cybersecurity Concerns** The integration of generative AI into financial systems increases the risk of cyberattacks. Ensuring robust cybersecurity measures is crucial for maintaining trust and protecting sensitive data.

### The Way Forward for Generative AI in Pakistan

To fully leverage the potential of generative AI, Pakistan's financial sector must address these challenges and create an ecosystem conducive to innovation. Here are some key recommendations:

**Policy and Regulation** The government and regulators like the State Bank of Pakistan (SBP) should establish clear guidelines for the ethical and secure use of AI in finance. Policies promoting data-sharing frameworks, privacy protection, and fintech collaboration can accelerate adoption.

**Investment in Infrastructure** Financial institutions and tech companies should invest in cloud computing and AI development platforms. Public-private partnerships can help create the necessary infrastructure for generative AI.

**Skill Development** Educational institutions and tech hubs should collaborate to offer specialized programs in AI and machine learning. Upskilling the existing workforce will also be crucial.

**Promoting Fintech** Collaboration Banks and fintech start-ups should collaborate to co-develop generative AI solutions. Such partnerships can drive innovation and improve financial inclusion.

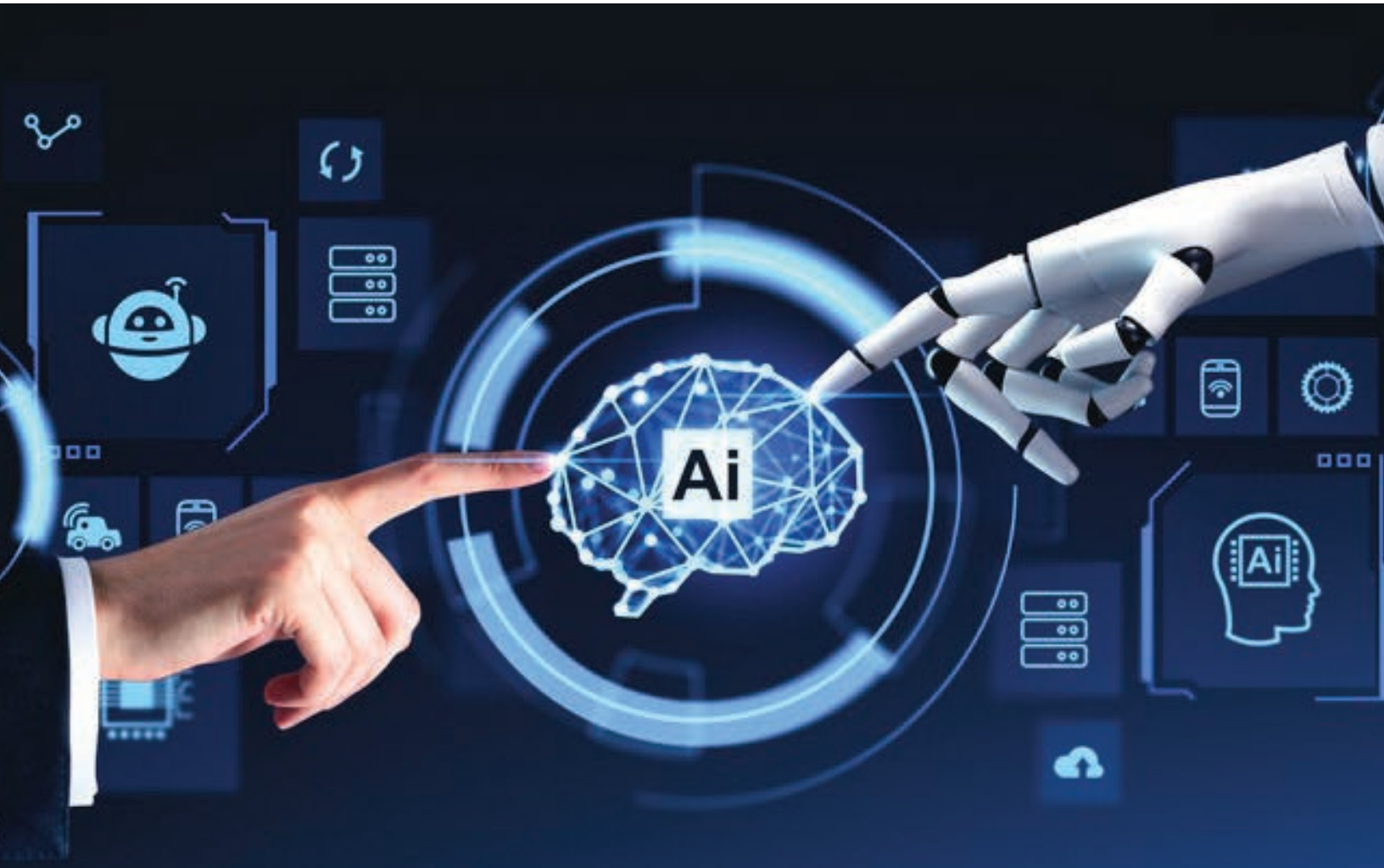
**Awareness and Advocacy** Raising awareness about the benefits of generative AI among stakeholders including financial institutions, regulators, and consumers can foster trust and drive adoption.

### Conclusion

Generative AI is redefining the global financial landscape by enabling smarter, faster, and more personalized services. While the technology is still nascent in Pakistan, its potential to transform the financial sector is undeniable. By addressing challenges related to infrastructure, talent, and regulation, Pakistan can harness generative AI to improve financial inclusion, drive innovation, and enhance customer experiences. The journey may be complex, but the rewards promise to be transformative, positioning Pakistan as a key player in the AI-driven future of finance.



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# Generative AI – The Game Changer in Finance

Mr. Muhammad Qummar Waheed, ACA

Generative AI is revolutionizing the finance space, significantly changing the way accounting, financial analysis, and compliance are handled. While speeding up traditional processes, AI improves outcomes, increases efficiency, boosts productivity, and reduces consumption of resources. This transformation makes AI an essential tool that Chartered Accountants (CAs) and finance professionals need to leverage in order to remain up-to-date with the increasingly digital landscape. While tools like Domo can simplify many routine tasks, AI's impact goes far beyond automation, reshaping finance's core functions and introducing both opportunities and challenges.

**For Chartered Accountants, DOMO represent competitive advantage as they simplify the most complex of processes and make data-driven decision making straightforward.**

## AI's Power in Data Analysis and Forecasting

One of AI's largest strengths in finance is its ability to analyze large datasets at unprecedented speeds. As these methods serve instead of a lot of human input and analysis, traditional ones are being replaced by AI's ability to spot trends, correlations, and even anomalies that might not have been found otherwise. This power is super-contributed areas like financial forecasting and fraud detection.

Today, financial institutions use AI-driven predictive models to predict market fluctuations, forecast revenues, and manage their risks. These models basically rely on machine learning algorithms that pick-up information from historical data, market indicators, and even non-structured data such as social media trends to deliver that precision. In this view of investment management, it works with more informed and timely decisions.

AI can also significantly minimize the financial fraud risks. Machine learning algorithms analyze transaction data for unusual patterns, such as large transfers or bizarre purchasing behaviors, thus helping companies to prevent fraud before it happens. This helps businesses save money and time, while also preventing damage to their reputation.

## Visualization and Real-Time Data Presentation

AI's ability to present data visually through dynamic dashboards and impactful graphics has transformed finance. Instead of navigating complex spreadsheets, professionals can access real-time financial data with just a few clicks. Tools like Power BI, Tableau, and Domo utilize AI to turn complex data into easy-to-understand visuals, aiding quicker decision-making and ensuring that information is accessible to both finance experts and non-specialists.

For instance, a CFO can use AI-driven dashboards to present the health of the company's finances in a time-saving way to a board meeting. This means your people will make better strategic decisions with the help of clearer visuals on what the numbers tell and illustrate.

## Automation of Routine Tasks

Routine book-keeping, payroll, and financial reporting tasks automated by AI have significantly affected the daily routines of accountants. While these tasks are necessary, they involve a lot of time. Through automation, accountants free up time to delve into more value-adding tasks like strategic planning, advisory services, and rendering bespoke financial insights.

For instance, AI can automate expense management through categorization of expenses, flagging unusual entries, and processing of reimbursement requests. Tools that leverage AI can also provide accurate financial statements and tax returns. This minimizes the risk of human error while allowing a finance department to become more agile and responsive to changes.

## Challenges of Generative AI in Finance

Despite the many benefits of generative AI, it does come with some challenges. There are ethical and legal considerations, including data protection, transparency, and compliance with standards such as GDPR. Data privacy itself is also a huge problem because AI uses massive amounts of data. Therefore, it is essential to ensure how this data will be treated in respect of data privacy rules.

Another hurdle is transparency, especially with very complex AI models. Knowing how AI arrived at specific conclusions is essential for making auditors and regulators confident in the outcome of results obtained by using AI.

## The Human Factor in a Tech World

The human touch, while AI increases efficiency, cannot be substituted. AI is deficient in the nuances of understanding, intuition, and ethical judgment that experienced CAs bring to the table. It may deliver a detailed financial analysis while not fully comprehending broader business contexts, industry-specific challenges, or a strategic vision. CAs interpret the data garnered from AI and then provide context plus tailored advice to suit the specificity of each client's needs.

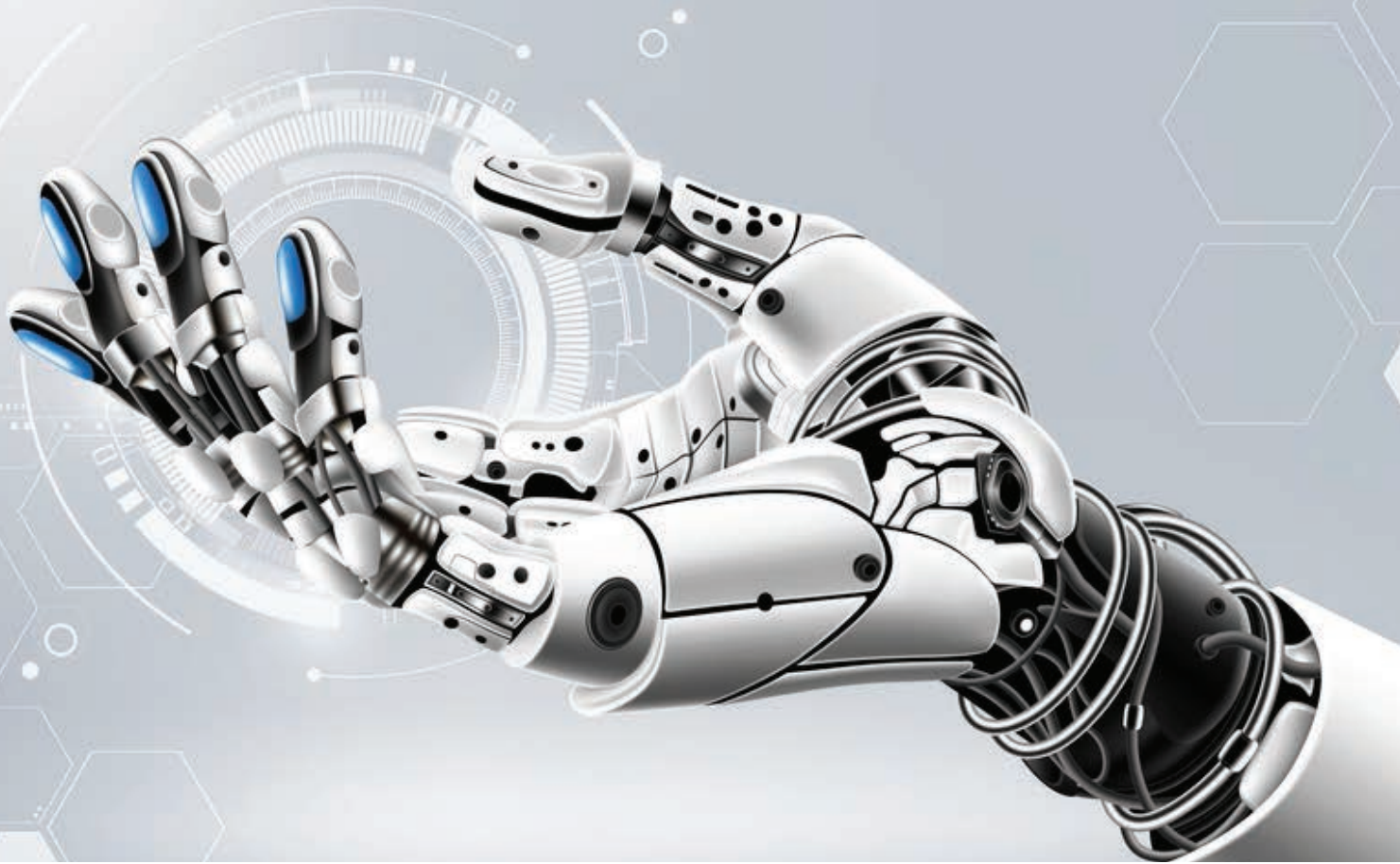
In AI, the potential for producing similar outputs across applications calls for humans to provide oversight and ensure reports, analyses, and forecasts based on AI are original and customized. Together, there is an interesting combination in the efficiency of AI and human expertise, thereby making them strong for delivery of even superior results among finance professionals.

## Conclusion

Generative AI is changing the finance sector in unprecedented manners for efficiency, accuracy, and innovation. For Chartered Accountants, DOMO sorts of applications represent competitive advantage as they simplify the most complex of processes and make data-driven decision making straightforward. Nevertheless, ethical considerations, regulatory compliance, and the risk of losing the personal touch must be managed carefully. The role of finance professionals will shift toward strategic insight and interpretation as well as human aspects of advisory services with the change in AI. The future of finance is the integration between technology and human expertise to provide the best results with AI and CAs.



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# Generative AI in Transforming Public Sector Transparency: Beyond Reporting to Predictive Oversight

Mr. Sami Ullah Khan, ACA

Generative Artificial Intelligence (AI) is revolutionizing many sectors, with its potential for significant change being felt across public sector management, particularly in the area of financial oversight. Traditional public financial management (PFM) systems have long struggled with inefficiency, lack of transparency, and delayed decision-making. The introduction of generative AI promises to shift this paradigm by automating routine processes, enhancing predictive capabilities, and ultimately fostering a more transparent, accountable, and efficient public sector.

This article explores the transformative role of generative AI in the public sector, especially focusing on financial

**Generative (AI) is revolutionizing many sectors, with its potential for significant change being felt across public sector management, particularly in the area of financial oversight.**

management. From automating financial reporting to offering real-time insights and predictive oversight, generative AI holds immense potential to improve governance, reduce fraud, and increase overall public sector efficiency. Through global examples, this article delves into how generative AI is shaping the future of public sector financial management, and how Pakistan can benefit from this technology.

## The Evolution of AI in Public Sector Financial Management

Before delving into the specific applications of generative AI, it is important to understand the evolution of AI in public sector financial management. Initially, AI in the public sector was primarily used to automate basic tasks such as data entry, reconciliation, and reporting. Governments and public sector organizations utilized AI for these routine processes to reduce administrative burden, save time, and improve accuracy.

Generative AI, however, goes beyond automation—it creates new outputs based on input data, offering predictive insights, generating reports, and even simulating different financial scenarios. In the context of public sector financial management, this could revolutionize how governments plan, audit, and oversee public spending. By using generative AI, public financial managers can predict budget needs, simulate economic outcomes, and detect anomalies or fraud in real-time, rather than relying on periodic checks.

### Global Examples of Generative AI Adoption in the Public Sector

Several countries have begun to integrate generative AI into their public sector financial management systems, demonstrating its transformative potential.

**Singapore:** The Singaporean government is a leader in adopting AI for public services. The city-state's Smart Nation initiative uses AI to enhance urban living and improve public services. In terms of public financial management, Singapore has implemented AI-powered tools for budget forecasting, allowing the government to predict future financial trends with high accuracy. By integrating generative AI, Singapore has also enhanced its ability to detect fraudulent transactions in government

programs by analysing large datasets for unusual patterns, thereby improving transparency and reducing financial waste.

**Estonia:** Estonia is another frontrunner in using AI to streamline public services. The country has been employing AI to optimize its e-government services for years. Generative AI has been utilized in Estonia's tax administration system, where it helps generate accurate financial reports, reducing the time spent by tax authorities on routine audits. The AI tool also offers predictive insights into potential tax revenue, helping the government plan more efficiently for future expenditures. By automating

large portions of its tax collection and audit processes, Estonia has saved millions of euros annually in operational costs, all while improving transparency and service delivery.

**United States:** The U.S. government, through initiatives such as the Artificial Intelligence for American Innovation (AI4I) Act, has been exploring the role of AI in public financial management. In the realm of public sector auditing, generative AI is used by several state governments to assess risks and predict the financial outcomes of various policy initiatives. For example, AI-powered models in California are

now predicting the financial impact of infrastructure investments, giving policymakers data-driven insights to improve spending efficiency and prevent cost overruns. These advancements have helped the state save significant amounts in both time and money, while providing a more accountable and transparent framework for financial decisions.

**United Kingdom:** The UK government has made strides in using AI to improve transparency in public sector financial management. The National Audit Office (NAO) in the UK uses AI algorithms to detect patterns and anomalies in government spending, which can indicate fraud or waste. Through the application of generative AI, the NAO has been able to predict areas where financial mismanagement is most likely to occur, allowing for more targeted audits and preventative measures. This proactive approach has led to the identification and prevention of significant financial losses in public services, reinforcing trust in government financial systems.

**The introduction of generative AI promises to shift this paradigm by automating routine processes, enhancing predictive capabilities, and ultimately fostering a more transparent, accountable, and efficient public sector.**

## The Role of Generative AI in Enhancing Transparency

Generative AI's ability to predict and simulate financial scenarios is particularly powerful in improving transparency in public financial management. Traditional systems typically provide historical data, which limits the ability to foresee potential issues or opportunities. In contrast, generative AI can produce predictive models based on current and past data, offering real-time insights into government spending, potential risks, and future financial conditions.

For example, using AI, governments can forecast the financial outcomes of proposed projects or policies before they are implemented, providing a clearer picture of their likely success or failure. This proactive approach enables governments to allocate resources more effectively, prioritize high-impact projects, and mitigate the risks of budget overruns or corruption.

Furthermore, generative AI can automate the generation of financial reports, providing timely and accurate data on public sector finances. This reduces the risk of human error, improves accountability, and ensures that citizens and stakeholders have access to the information they need to hold governments accountable.

### Impact on Public Sector Efficiency

Generative AI's impact on public sector efficiency cannot be overstated. By automating routine financial management tasks such as budgeting, forecasting, and reporting, AI can drastically reduce administrative costs and increase the speed of decision-making. In Estonia, for example, the use of generative AI in the tax system has cut the time spent on audits by 30%, allowing tax authorities to focus on more complex tasks while ensuring greater accuracy.

Additionally, AI-powered tools can assist public financial managers in detecting fraud and financial misconduct. By analysing large datasets, generative AI can identify unusual patterns or anomalies that may indicate fraudulent activities. This allows for more efficient investigations and the prevention of financial losses.

### Adopting Generative AI in Pakistan's Public Sector

Given the potential benefits outlined above, it is crucial for Pakistan to explore the adoption of generative AI in its public financial management systems. The country faces numerous challenges in managing public finances efficiently, including a

lack of transparency, bureaucratic inefficiencies, and limited access to timely data. Integrating generative AI could address many of these issues by automating processes, enhancing transparency, and providing predictive insights for better decision-making.

Pakistan's government could start by collaborating with international partners, such as the World Bank or the United Nations Development Programme (UNDP), which have supported the use of AI in developing countries. These organizations could provide financial and technical assistance for pilot programs, helping Pakistan build the infrastructure needed to implement AI-driven financial systems.

**Generative AI's ability to predict and simulate financial scenarios is particularly powerful in improving transparency in public financial management.**

### Conclusion

Generative AI has the potential to revolutionize public sector financial management by improving transparency, increasing efficiency, and fostering better decision-making. Countries like Singapore, Estonia, and the United States are already demonstrating the transformative power of this technology in the public sector. For Pakistan, adopting generative AI could be a game-changer, enabling more effective use of public funds,

reducing waste, and increasing citizen trust in government institutions. With the right investments in technology, training, and international collaboration, Pakistan can harness the power of generative AI to create a more transparent, efficient, and accountable public sector.

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# The AI-Powered Future of Finance

Mr. Muhammad Atta ur Rehman Malik, ACA

Generative Artificial Intelligence (Gen AI) is the next generation of artificial intelligence that, unlike its previous generation of weak AI or traditional AI, can create something new like images, text, videos etc, in response to a prompt or a variety of inputted data. It can also add human like decision making to workflows. Common example is the ChatGPT. Gen AI can significantly improve standard financial practices

because it is powered by data and finance also makes use of large amounts of data. The applications of Gen AI in Finance include:

## Achieving Strategic Planning:

AI based models may be used to review large sets of data quickly in order to gather information on trends and to perform advanced scenarios and impact analysis to run simulations



based on various variables / assumptions assisting business leaders to set the right strategy.

### **Automation:**

Various activities and accounting related tasks like billing, payments and collections and reconciliations, journal entries and financial consolidation accounting may be automated using Gen AI based systems.

### **Financial and Management Report Generation:**

Gen AI could assist in developing periodic financial and management reports in numeric and narrative formats, allowing businesses to be more efficient and proactive.

### **Continuous Controls Monitoring and Fraud Detection:**

Transactions can be analysed in real time and anomalies can be identified. Gen AI based models trained on certain activity patterns may be used to detect fraud by monitoring transactions in real time.

### **Stakeholder Management:**

Models trained on Company specific financial and non-financial data could generate informative material such as financial performances for different periods. AI based chatbots can be developed to address various stake holders' queries and transactional inquiries.

### **Risk Assessment and Management:**

Gen AI based systems may be used to analyse customer data from different financial and non-financial sources to decide on loan approval & credit limits and also to provide customized financial / investment advice.

### **Risks of Gen AI:**

Despite the several benefits, Gen AI technology is not free from risks:

#### **Bias and Inaccuracy:**

Gen AI based models are trained on data, and if the data is biased or inaccurate than the output result shall also be biased or inaccurate.

#### **Safety and Security:**

Gen AI based systems may be used for malicious purposes such as cyber and fraud attacks, generating fake images and spreading of misinformation.

#### **Complexity:**

The models can be complex making it difficult to understand the way predictions are made.

#### **Implications for Finance Leaders:**

Despite its potential to automate business processes, Gen AI will still require human capabilities like teaming, critical thinking etc. Finance Leaders may need to develop Gen

AI fluency in order to give right prompts and to analyse the quality of generated output.

#### **Real Live Examples of Gen AI in Finance:**

- Morgan Stanley, an American multinational investment bank and financial services Company, is expanding its use of AI with a new assistant that will save thousands of hours of work for the Bank's Financial Advisors.
- MasterCard has prevented financial fraud of over billions of dollars after implementing the AI-powered fraud detection system.



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# Banking Industry Transformation – Evolving Trends and Opportunities

Mr. Ahmed Abdullah Advani, FCA

## Background

In the ever-evolving landscape of the banking industry, several trends are reshaping the way banking industry operates and serves its customers. The transformative journey is driven by technological advancements including Generative ('Gen') Artificial Intelligence ('AI'), shifting consumer expectations and a changing regulatory landscape. The long-established banks and financial institutions are facing significant challenges in this rapidly evolving environment and must navigate these trends and reassess their business models to stay competitive and relevant.

## Evolving Trends

The key evolving trends reshaping the banking industry are summarized in this article:

### Digitization

Digitization has enabled banks to offer fast, seamless, cost efficient and personalized customer experiences. Traditional banking with physical branches is giving way to digital channels, with online banking platforms, mobile applications, Gen AI to automate complex tasks and digital wallets becoming the norm as they provide customers with round the clock access to their accounts, allowing them to conduct transactions, check balances, and manage finances

conveniently. The rise of neo banking and fintech startups poses a considerable threat to traditional banks as they often offer innovative, user-friendly services, attracting tech-savvy customers.

Banks are increasingly adopting Gen AI to enhance customer service, offer customized products, streamline workflows and improve operational efficiency. This adoption advances the ongoing digital transformation of the banking industry.

### Data Analytics and Gen AI

Futuristic banks are integrating the power of data analytics and AI to gain valuable insights into customer behaviour and preferences. These tools give significant competitive advantage as it helps banks in executing more targeted marketing strategies and the development of innovative and customer centric financial products. Gen AI-powered chatbots assist customers with inquiries, machine learning algorithms enhance fraud detection, and robotic process automation streamlines back-office tasks. This not only improves efficiency but also enhances the overall customer experience.

### Cloud Technologies

Cloud technology has transformed the way banks manage huge

amount of sensitive data. Banks are also deploying Gen AI to process huge amount of customer and financial data to prepare automated financial and regulatory reports. It has significant impact on the operating cost as it enables banks to reduce capital expenditure associated with maintaining on-premise infrastructure and improves the bank's agility to test new features, products and services. It helps the banks in becoming more scalable in a seamless manner. This provides banks with robust business continuity capabilities and helps the banks employees to access data from remote locations without compromising on the data security.

### Cybersecurity

As the banking industry continues to embrace technology for enhanced services and greater efficiency, cybersecurity has become a top priority for banks. The potential fallout from a successful cyberattack on a bank extends beyond financial losses, encompassing reputational damage, legal consequences, and erosion of customer trust. As such, the need for comprehensive cybersecurity strategies and stringent data privacy practices with the help Gen AI is non-negotiable and many banks are investing heavily in robust cybersecurity measures to protect customer data and financial transactions.

### Sustainable Finance

Sustainable finance encompasses financial activities that contribute positively to environmental protection, social well-being, and ethical governance and are increasingly influencing banking practices. This trend aligns with growing global consumer awareness of environmental and social issues, pushing banks to adopt responsible and ethical practices. Sustainable finance goes beyond profit-making, emphasizing environmental, social, and governance (ESG) criteria in decision-making processes. Many banks are allocating funds to environmentally friendly projects including renewable energy projects, energy-efficient infrastructure, and initiatives aimed at reducing carbon emissions. Further, many banks are increasingly integrating social considerations into their financial activities and enhancing their governance standards, promoting transparency, accountability, and ethical behaviour.

### Regulatory Compliance

The regulatory landscape in the banking industry is undergoing significant transformation, driven by technological advancements, shifts in consumer expectations, and a heightened awareness of ESG considerations. The banking regulators around the world are introducing new measures including enhancing regulatory frameworks and extensive reporting requirements to enhance stability, protect consumers, and adapt to the evolving financial environment. The banks need to navigate these regulatory changes by remaining agile, investing heavily in compliance capabilities including relevant AI tools, and staying attuned to evolving global standards to support the strengthening of the global banking system.

### Opportunities for Banks and Financial Institutions

Early adoption of evolving trends not only positions banks and financial institutions as innovators but also unlocks numerous opportunities to enhance customer experiences, improve operational efficiency and sets themselves apart from their competitors and positions them for long-term success. Some of the key strategic advantages have been summarized below:

#### Agility and resilience

The early adopters of evolving trends will have the flexibility to respond quickly to shifting consumer demands, regulatory

changes, economic uncertainties and emerging trends, staying ahead of the curve in a rapidly evolving financial landscape. As technology including Gen AI tools continue to advance, the banks that successfully integrate and adapt to these changes will undoubtedly lead the way toward a more secure, efficient, and resilient future.

#### Enhanced customer experience

The banks will be able to significantly enhance their customer experience and improve customer satisfaction by offering customized products focusing on customer needs identified through data analytics and Gen AI and quick response time through digitization. This will enable to attract more customers at a much faster pace and help the bank grow its business.

#### Cost savings and improved efficiencies

The digitization of banks customer offerings and processes and usage of Gen AI and cloud technologies have helped banks to achieve substantial cost savings, automating time taking processes, reduce manual errors and paperwork and facilitate faster and secure transactions. This enables the banks to reduce their cost of doing business and offer banking products at competitive rates in the market.

#### Improved Regulatory compliance

The banks adopting these trends will be able to meet fast paced regulatory changes quickly and the focus on data security and automation will lead to substantial decrease in manual errors, security breaches and minimize the fines from regulators. Gen AI is proving to be a game changer as it is helping the bank in effectively detecting frauds, suspicious transactions and processing huge amount of complex data.

#### Improved decision making

Banks leveraging data analytics and Gen AI will gain deeper insights into their current business model, customer behaviour, preferences, response times and market trends and can make quick and informed decisions, revisit their business strategy, proactively manage risks, create targeted marketing campaigns, and develop innovative products and services that better align with customer needs and market requirements.

#### Competitive Advantage

Banks that stay ahead of the curve in adopting evolving trends gain a competitive advantage and improve their overall profile in the market. By offering cutting-edge technologies, customer focussed services using Gen AI and focusing on sustainable finance, they attract tech-savvy and socially responsible customers and position themselves as leaders in the industry.

#### Conclusion

As banks and financial institutions strive to stay relevant and competitive, they need to quickly embrace digital transformation, embed Gen AI, foster innovation, prioritize customer needs, and adapt to regulatory changes. These evolving trends are not only transforming traditional banking models but also fostering a more resilient and responsible financial ecosystem and paving the way for a more connected, secure, and customer-centric future.



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# Benefits of Generative Artificial Intelligence in Finance

Mr. Safdar Ali, ACA

## Automation of Time Consuming Repetitive Tasks:

Repetitive tasks are time consuming and divert focus from strategic tasks like identifying relevant information from large databases and spread sheets and extracting information from news articles and filtering financial information for regulatory compliances. Generative Artificial Intelligence techniques help in speeding up such tasks so that finance professionals may concentrate on analysing the information extracted by Generative AI Tools and making critical thinking. Generative AI hence help in profound understanding of complex financial details.

## Automation of Financial Risk Management Tasks:

Previously there was manual search for financial data for financial risk management. Now with the help of Generative AI Tools the inaccuracies in prior practices is removed. Generative AI Financial Tools can even perform testing on prototype data for real world scenario like The Institute of Chartered Accountants of Pakistan (ICAP) conducts a prototype training for Chartered Accountant members on stocks dealing on Pakistan Stock Exchange hence making them trained and ready for a stock exchange business. Hence, generative AI helps in reducing risk and making of informed decisions.

## Automation of Financial Documents and Financial Reports:

Preparation of financial documents and those of financial

reports was also a time consuming task. Previously financial information was required to be extracted in order to make financial documents and Financial Reports. With the help of Generative AI financial data is been extracted from various sources and financial documents and reports are been prepared as per standard requirements fit in the AI software. Hence, work efficiency and accuracy is been improved.

## Automation of Portfolio Management Services:

Conventional portfolio management services in financial markets rely on historical data. Generative AI Tools analyse vast amounts of data from the market and also analyse financial news and market sentiments. Hence the use of Generative AI Tools helps in making better portfolio management services. Hence, untapped opportunities are been taped.

## Automating Regulatory Compliances:

Traditional regulatory compliances were cumbersome. Now generative AI Tools just needs a software and Application update on your mobile phone and the advance financial regulatory and Information Technology dependent environment will automatically make you comply with requirements that were laborious and time consuming previously.



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# Beyond Numbers: How Generative AI is Shaping the Financial World

Mr. Adnan Mehmood Khan, ACA

## Introduction to Generative AI in Finance

### i. Understanding Generative AI Technology

Generative AI is like having a creative digital finance companion. It's like as if you had a personal assistant with extraordinary intelligence that could analyze your financial records and draw conclusions about them. Generative AI, in contrast to rule-based AI, may generate original content, spot market trends, and propose creative financial solutions. It's changing the way we think about financial services and turning the seemingly impossible into the norm.

### ii. Current State of AI in Financial Services

Instantaneous processing of millions of transactions is possible for banks, financial businesses can improve their market predictions, and insurance companies can streamline claims processing with the help of AI. AI is now capable of handling complicated jobs with remarkable accuracy, such as risk assessment and portfolio management and it's no longer limited to automation alone.

### iii. Key Drivers of Generative AI Adoption

The adoption of generative AI by financial institutions: what is driving this trend? The drive to cut costs while enhancing accuracy, the necessity to remain competitive in a digital age, and the rising demands of individualized services from customers are all coming together like a perfect storm. This change was already in motion before the epidemic hit, but now digital transformation is absolutely necessary.

## Applications in Banking and Financial Services

### i. Customer Service and Support

I am sure you remember how annoying it was to have to wait on hold for hours just to talk to your bank? Things are changing quickly. Personalized answers are now provided by AI-powered chatbots and virtual assistants that manage client requests 24/7. Banking is becoming more accessible and user-friendly than ever before since they are learning from each encounter and not just answering queries.

### ii. Risk Assessment and Management

In order to assess credit risks, fraud activities, and market

circumstances in real-time, modern AI systems examine huge data. In order to safeguard assets, they are able to make split-second decisions after noticing trends that people might overlook. The result is as accurate and consistent as if thousands of risk analysts were working together.

### iii. Trading and Investment

With the help of AI, the trade floor has been digitized. Now, millions of deals are executed at optimal pricing by algorithmic trading, and tailored investment strategies are created by AI-driven portfolio management systems. These algorithms can scan through mountains of market data, news stories, and social media emotion far more quickly than any human trader could hope to.

## Transforming Financial Operations

### i. Process Automation

The use of AI has greatly improved the speed and accuracy of many financial processes, including the processing of loan applications and account reconciliations. Employees will have greater mental bandwidth to devote to the more strategic and imaginative parts of financial operations.

### ii. Financial Planning and Advisory

The use of AI is leveling the playing field in the realm of financial advice. Using information about your current financial status, future objectives, and comfort level with risk, these systems develop tailored investment plans that adapt over time to meet your evolving needs and the ever-changing market.

### iii. Data Analytics and Insights

The ability to translate data into action is crucial in the modern, data-driven environment. Artificial intelligence systems are sifting through mountains of financial data in search of patterns that can indicate future market movements. They're assisting organizations in gaining insight into consumer habits, enhancing operational efficiency, and discovering unexplored opportunities.

## Regulatory and Compliance Implications

### i. Regulatory Framework

Authorities are rushing to establish regulations that will guarantee the ethical use of generative AI as it gains popularity. New standards for AI openness, accountability, and equity are appearing.

### ii. Data Privacy Concerns

Data protection is of the utmost importance in this era of value-driven information. Banks and other financial organizations are precariously balancing the use of AI with the need to protect their customers' personal information. New forms of privacy-preserving AI are appearing, which will enable businesses to do data analyses without compromising customer privacy.

### iii. Ethical Considerations

Concerns regarding algorithmic bias, loan decision fairness, and the effect on financial inclusion are valid concerns. Businesses are struggling with the challenge of training AI systems to make decisions that are good for society and the bottom line.

### iv. Compliance Automation

A new frontier has emerged: smart compliance. Automated transaction monitoring, potential violation flagging, and compliance report generation are all ways in which AI technologies are changing the way financial institutions deal with regulatory requirements. This automation guarantees consistent compliance with rules, minimizes expenses, and reduces the likelihood of human error.

## Challenges and Limitations

### i. Data Quality and Availability

"Garbage in, garbage out" is valid here as well. A.I. systems rely heavily on the quality of the data used to train them. Maintaining accurate, complete, and impartial data is a continuing challenge for financial organizations. Data cleaning and validation procedures demand substantial investments due to the ongoing pursuit of high-quality data.

### ii. Integration with Legacy Systems

Problems with data migration, incompatibility between systems, and disruptions to operations are just a few of the ways that many banks deal with this technology mismatch.

### iii. Security Concerns

The risks that AI systems encounter are directly proportional to their level of sophistication. From data poisoning to adversarial assaults, cybersecurity teams are fighting new kinds of threats that target AI models. It is an ongoing effort to secure these systems without compromising their effectiveness; this calls for regular vigilance and the adjustment of security measures.

### iv. Skills Gap and Training

As more and more conventional financial jobs become AI-dependent, the sector is confronting a severe shortage of qualified workers. In order to develop this vital in-house expertise, businesses are pouring resources into training programs.

## Future Prospects

### i. Emerging Technologies

New opportunities are emerging in the financial sector as a result of the confluence of AI, blockchain, quantum computing, and other new technologies. We are only scratching the surface of how these technologies will transform financial services.

### ii. Industry Trends

Hyper-personalization, embedded finance, and autonomous banking are just a few of the ways that AI is driving this shift. Technology and the financial sector are becoming increasingly intertwined.

### iii. Potential Disruptions

Innovations powered by AI are posing a challenge to long-standing companies while also opening up new chances in the market. Disruptive technologies are changing the way we perceive and deal with money. For example, there are decentralized lending platforms and banks that rely exclusively on artificial intelligence.

## Implementation Strategies

### i. Assessment and Planning

In order to successfully implement AI, extensive preparation is required. In order to succeed, businesses must first assess their present situation, pinpoint problems, then plot a course of action. Just like when you're planning a big makeover on your house, you need to take stock of what you already have, figure out what you'll need, and figure out how to get there without affecting regular operations. Being well-prepared helps you avoid expensive errors.

### ii. Infrastructure Requirements

Similar to building a tower, AI capabilities require a solid foundation. Strong computer resources, safe data storage, and dependable network infrastructure are necessities. Because of their adaptability and scalability, cloud solutions are frequently chosen. However, the correct software environment is equally as important as hardware when it comes to supporting AI operations.

### iii. Change Management

People matter just as much as technology when it comes to introducing AI. Managing organizational change, responding to employee concerns, and encouraging a culture of creativity are all essential for a successful implementation. For new ways of working to be enthusiastically adopted, it is essential to involve all levels of personnel, from front-line workers to senior executives.

### iv. ROI Considerations

The ROI on AI investments isn't easy to pin down. In addition to the obvious financial benefits, businesses should think about how they may increase productivity, provide a better experience for customers, and gain a competitive edge. Keeping reasonable expectations about when and how profits would materialize is key to balancing short-term costs with long-term advantages.

## Impact on Financial Workforce

### i. Job Role Evolution

Due to AI taking over mundane jobs, traditional positions are changing. Compliance officers are shifting their emphasis from tactical oversight to long-term strategy, risk analysts are forming partnerships with AI systems, and relationship managers are evolving into data-savvy consultants. The focus here is on improvement and development rather than replacement.

### ii. Required Skill Sets

Experts in the financial sector today require a multi-faceted skill set. Knowledge of data analysis, artificial intelligence, and technical aspects is quickly overtaking knowledge of traditional finance. With AI taking care of the math, softer talents like creativity, critical thinking, and emotional intelligence are becoming more valuable. Integrating human knowledge with technical capacity is key.

### iii. Training and Development

An important goal is the improvement of workers' abilities.

Companies are spending a lot of money on training programs that cover everything from the basics of artificial intelligence to advanced technical abilities.

## Best Practices and Case Studies

### i. Success Stories

The use of AI in the real world is having a revolutionary effect. There is no shortage of success tales, from investing businesses attaining historically accurate market predictions to large banks cutting fraud rates by a huge percentage.

### ii. Implementation Examples

It is essential to learn from the experiences of others. Having well-defined goals, a gradual rollout, solid data governance, and efficient change management are generally components of a successful implementation. The use of chatbots by multinational banks and AI-powered credit scoring systems by fintech companies both provide instructive case studies.

### iii. Lessons Learned

Important lessons lay the way to AI success. The significance of beginning small, validating outcomes, and scaling gradually has been learned by early adopters. Data quality, human oversight, and transparency have all been highlighted to them as crucial. People can learn from these mistakes and not make the same ones.

## Conclusion and Recommendations

### i. Key Takeaways

In the world of banking, the AI revolution is raging. The key is realizing that AI is more than a tool; it's a revolutionary change to the way financial services function.

### ii. Strategic Considerations

To achieve lasting success with AI, one must plan strategically. A company's competitive standing, regulatory landscape, and consumer needs are all important factors to consider.

### iii. Action Items

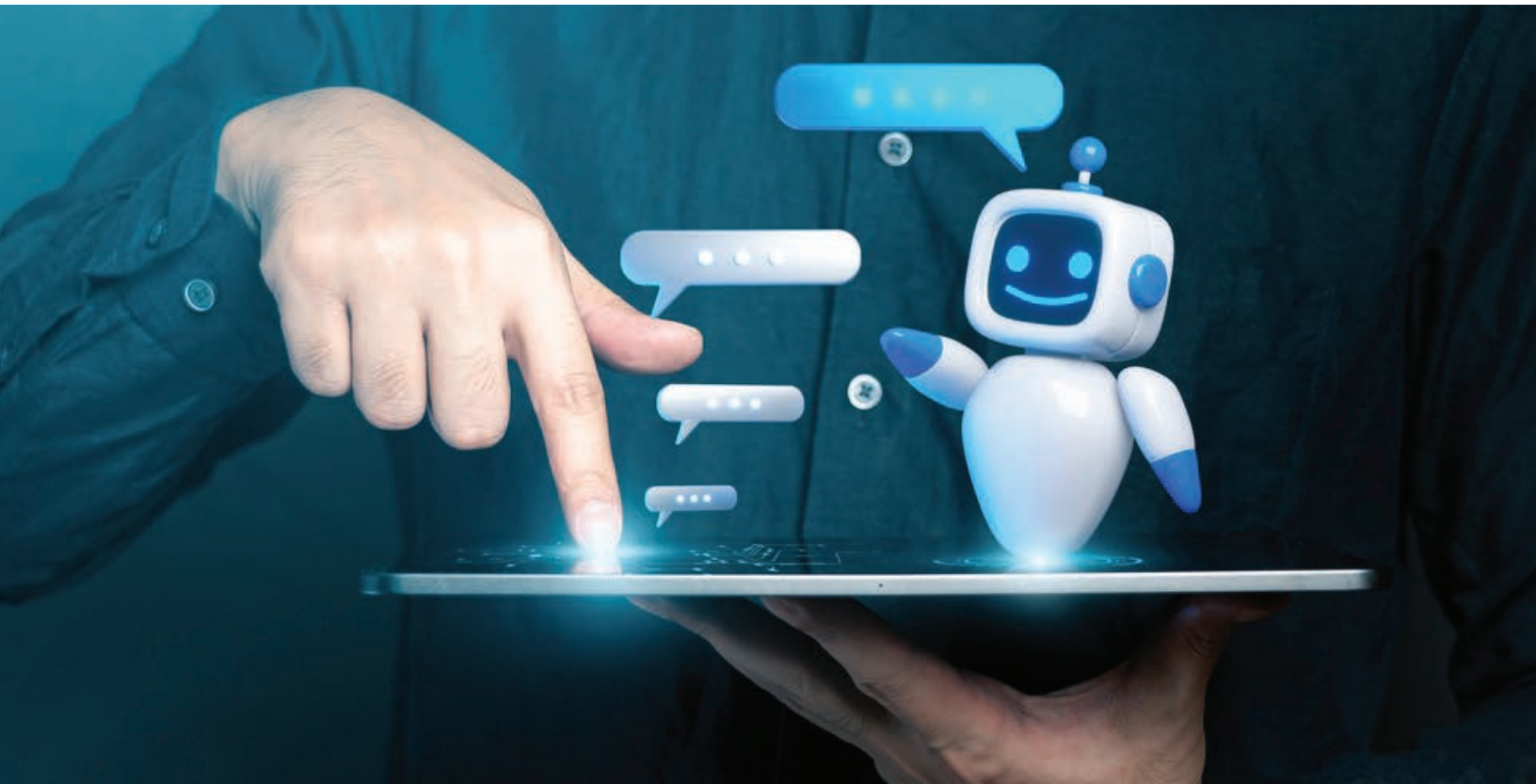
Achieving progress necessitates tangible measures. It is important for organizations to evaluate their AI preparedness, create detailed strategies for implementing AI, and set up systems for governance. They need to put money into infrastructure, educate their workers, and form alliances.

### iv. Future Outlook

Fintech is rapidly becoming an AI-driven industry. Successful businesses will be those that welcome change with open arms, mitigate any threats, and hold fast to their human values. Adaptability, lifelong learning, and customer value delivery must be your guiding principles.



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# Generative AI: Redefining Innovation and Strategy in Finance

Mr. Rahim Somani, FCA

The advent of Generative AI has marked a transformative era in the finance industry, fundamentally revolutionizing traditional methodologies and unlocking unprecedented opportunities for innovation, efficiency, and strategic decision-making. As a trailblazer in adopting technological advancements, the financial sector continues to embrace this cutting-edge technology to optimize processes, enhance decision-making, and strengthen client relationships. With its ability to create new content, automate complex tasks, and extract actionable insights from vast datasets, Generative AI is reshaping financial processes, forecasting, risk management, and customer engagement. This article explores the profound implications of Generative AI for the finance industry, examining its applications, benefits, challenges, and the road ahead.

## Revolutionizing Financial Analysis

Generative AI is reshaping financial analysis by automating the processing of massive amounts of data with remarkable precision. Using advanced algorithms such as Generative Adversarial Networks (GANs), this technology synthesizes

data patterns, generates financial scenarios, and predicts market trends more accurately than ever before. For instance, predictive modeling powered by Generative AI enables real-time trend analysis and correlation detection, providing finance professionals with insights that traditional methods might overlook. This empowers organizations to make informed decisions swiftly, offering a competitive edge in today's volatile financial markets. Moreover, Generative AI eliminates the need for manual data aggregation and interpretation, allowing professionals to concentrate on strategic initiatives, such as exploring new market opportunities or developing innovative financial products.

## Advancing Risk Management

Risk management lies at the heart of financial decision-making, and Generative AI is proving to be a game-changer in this domain. It introduces innovative tools for anomaly detection, fraud identification, and risk modeling. By simulating economic scenarios and stress-testing portfolios, Generative AI equips organizations to anticipate uncertainties and mitigate potential losses effectively.



In addition to structured data, Generative AI excels at analyzing unstructured data sources, including news articles, social media feeds, and regulatory updates. This multidimensional approach provides a comprehensive view of risk factors, enabling firms to devise robust mitigation strategies and remain resilient in dynamic environments.

### Transforming Customer Experience

In an era defined by personalization, Generative AI is revolutionizing customer engagement in the financial sector. AI-driven chatbots and virtual assistants, powered by Natural Language Processing (NLP), provide round-the-clock support for routine queries while delivering tailored financial advice.

For example, banks are leveraging Generative AI to create personalized investment portfolios and customized credit solutions that align with clients' financial goals and risk appetites. These hyper-personalized services not only enhance customer satisfaction but also foster loyalty, positioning financial institutions as trusted partners in their clients' financial journeys.

### Enabling Regulatory Compliance

The complex regulatory landscape of the finance industry poses significant challenges, but Generative AI offers a lifeline. It can automate the generation of compliance reports, monitor regulatory changes, and ensure adherence to local and international standards.

By continuously analyzing regulatory updates and aligning processes with compliance requirements, Generative AI minimizes the risk of penalties and reputational damage. This fosters trust among stakeholders and strengthens the industry's credibility.

### The Ethical and Regulatory Imperative

While the potential of Generative AI is immense, it also raises critical ethical and regulatory concerns. Issues such as data privacy, algorithmic bias, and accountability must be addressed proactively. Financial institutions bear the responsibility of ensuring transparency in AI applications, protecting sensitive data, and mitigating the risks of unintended consequences.

Collaboration between regulators, technology developers, and industry stakeholders is essential to establish ethical AI frameworks. These guidelines should balance innovation with compliance, safeguarding public trust while fostering responsible AI deployment.

### Benefits of Generative AI

The integration of Generative AI into the finance industry offers numerous advantages:

- **Efficiency:** By automating repetitive tasks, Generative AI allows finance professionals to focus on strategic and high-value activities.
- **Accuracy:** AI minimizes human error through precise data analysis and processing.
- **Scalability:** AI solutions can scale operations seamlessly,

making them ideal for organizations of all sizes.

- **Personalization:** Tailored services enhance customer satisfaction and loyalty, setting financial institutions apart in a competitive market.

### Challenges and Workforce Implications

Despite its advantages, the integration of Generative AI comes with challenges that need careful consideration:

- **Data Privacy:** Safeguarding sensitive financial data requires robust security measures to prevent breaches and unauthorized access.
- **Bias and Fairness:** AI systems can inadvertently perpetuate biases in their training data, leading to unequal outcomes.
- **Regulatory Compliance:** The evolving nature of AI demands that regulatory frameworks adapt to address emerging risks.
- **Workforce Impact:** Automation may lead to job displacement, underscoring the need for reskilling and upskilling initiatives to empower employees to thrive in an AI-driven environment.

### The Path Forward: Embracing the AI Frontier

The finance industry stands at a pivotal moment, where embracing Generative AI is no longer optional but imperative. To maximize its potential, organizations must adopt a holistic approach that includes:

- **Investing in Workforce Development:** Building AI literacy among professionals and equipping them with skills to collaborate with AI systems.
- **Developing Ethical Frameworks:** Establishing clear guidelines for responsible AI deployment to ensure fairness, transparency, and accountability.
- **Fostering Collaboration:** Engaging with regulators, technology developers, and stakeholders to shape policies that balance innovation with societal values.
- **Monitoring and Evaluation:** Continuously assessing AI systems to ensure they align with organizational objectives and deliver value sustainably.

### Conclusion: Redefining the Financial Ecosystem

Generative AI is not just a technological advancement; it is a transformative force that is redefining the finance industry. While challenges such as data privacy and ethical concerns persist, a thoughtful and proactive approach to AI integration can pave the way for a future-ready financial ecosystem. As finance professionals, we are at the forefront of this revolution. By embracing collaboration, creativity, and continuous learning, we can harness the power of Generative AI to drive meaningful change and create unparalleled value for stakeholders. The journey ahead is one of the opportunity and responsibility—a journey that will shape the future of finance and redefine its role in society.



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# Generative AI: Opportunities and Threats for Pakistan

Ms. Farheen Atique, FCA

We have been hearing about artificial intelligence (AI) for a decade now. However, the concept of AI has entered a revolutionary phase in recent past due to technological advancement, digitalization and automation. AI is now being used in several industries and business sectors, including banks, education, healthcare and tech sector. The most recent form of generative AI is the evolution of Chat GPT which has put everyone to surprise.

Generative Artificial Intelligence (AI), a subset of machine learning, has revolutionized the way we approach content creation, decision-making, and problem-solving. From

“Generative Artificial Intelligence (AI), a subset of machine learning, has revolutionized the way we approach content creation, decision-making, and problem-solving.”

## Generative AI can help develop curriculum-aligned content and train teachers through virtual simulations, reducing the reliance on outdated methods. By integrating AI into education, Pakistan can address the challenge of illiteracy and uplift the quality of education in both urban and rural areas.

generating text and images to assisting in critical tasks like diagnostics and business forecasting, its potential seems limitless. For Pakistan, a developing nation striving to catch up with global technological advancements, generative AI could present a double-edged sword. On one hand, it offers transformative opportunities to enhance education, governance, and business innovation. On the other, it poses threats such as job displacement, ethical dilemmas, and over-reliance on technology. This article explores the potential opportunities and threats generative AI presents to Pakistan and outlines what the government, academia, businesses, and society need to do to harness its benefits while mitigating its risks.

### Opportunities for Pakistan

**Revolutionizing Education:** Generative AI has the potential to revolutionize Pakistan's struggling education sector. AI-powered tools can provide personalized learning experiences, create digital textbooks, and offer automated assessments. For students in remote areas with limited access to quality teachers, AI can bridge the gap by offering interactive tutorials, question-answer systems and content in multiple languages. Furthermore, generative AI can help develop curriculum-aligned content and train teachers through virtual simulations, reducing the reliance on outdated methods. By integrating AI into education, Pakistan can address the challenge of illiteracy and uplift the quality of education in both urban and rural areas.

**Enhancing Governance:** AI tools can improve governance by automating repetitive tasks, enhancing decision-making, and detecting inefficiencies or corruption. Generative AI can draft policies, analyze economic trends and even simulate the outcomes of policy decisions. For instance, it could help the government design data-driven strategies for urban planning or disaster management. Additionally, AI-powered chat bots could improve citizen engagement by answering queries, resolving complaints and streamlining public services like tax filings or license renewals.

**Boosting Business and Industry:** Generative AI offers immense potential for Pakistan's business sector. Startups

and established businesses can use AI to create marketing campaigns, develop innovative products, and optimize operations. In industries like manufacturing, generative AI can design prototypes, improve supply chain efficiency, and predict demand trends. For the tech sector, AI-driven solutions can attract international clients and investors. By fostering AI startups, Pakistan could position itself as a regional hub for AI innovation, creating jobs and boosting exports.

**Addressing Healthcare Challenges:** Generative AI can play a critical role in addressing Pakistan's healthcare gaps. AI tools can assist in diagnosing diseases, predicting patient outcomes, and even generating treatment plans. For example, generative AI could help create awareness campaigns in regional languages or generate early warning systems for outbreaks. With limited access to specialists in rural areas, AI-powered tele-medicine platforms could bring quality healthcare to under-served populations.

### Threats and Challenges

**Job Displacement:** One of the most significant threats generative AI poses is job displacement. Many repetitive and lower-skilled jobs, such as data entry, basic coding, or content creation, could be automated. For Pakistan, where unemployment is already high, this could exacerbate socio-economic disparities and create unrest among the workforce. Blue-collar jobs in manufacturing and services may also face challenges as AI-driven robots and systems take over tasks traditionally performed by humans.

**Academic Dishonesty and Loss of Creativity:** Generative AI makes it easier for students to cheat by producing essays, solving mathematical problems, or even generating entire projects. Over-reliance on such tools could stifle creativity and critical thinking, skills that are crucial for a developing economy like Pakistan. If unchecked, generative AI could create a generation of students who lack problem-solving abilities and are overly dependent on technology.

**Over-reliance on AI:** The widespread use of AI raises concerns about humans using their brains less. Over-reliance on generative AI for tasks such as decision-making, learning, and innovation could lead to intellectual stagnation. If critical thinking and problem-solving are outsourced to machines, the human race risks losing its creative edge. For Pakistan, a country that needs innovation to tackle challenges like poverty and climate change, such dependency could be detrimental.

**Ethical Concerns and Misinformation:** Generative AI can be used to create fake news, deepfakes, and misinformation, leading to societal instability. In a politically and socially sensitive country like Pakistan, such misuse could have severe consequences, from influencing elections to inciting violence. Moreover, ethical concerns around data privacy, biases in AI algorithms, and accountability need to be addressed before generative AI can be fully embraced.

**Countering the Negatives: A Way Forward:** To mitigate the threats posed by generative AI and maximize its benefits, a

# ☞ Pakistan can harness the transformative power of generative AI while mitigating its risks. The key lies in striking a balance between embracing technology and nurturing human creativity, ensuring a future where AI serves as an enabler rather than a replacement for human potential. ☞

multi-stakeholder approach is essential. Here's what various sectors need to do:

## Role of the Government:

- **Policy and Regulation:** The government must develop clear policies to regulate the use of generative AI. This includes guidelines on ethical AI development, data privacy laws, and anti-misinformation measures.
- **Skill Development:** Establish nationwide AI training programs to up-skill the workforce, ensuring they remain relevant in an AI-driven economy.
- **Incentives for AI Startups:** Provide grants, tax breaks, and other incentives to promote local AI innovation and attract foreign investment in the tech sector.
- **Public Awareness Campaigns:** Educate citizens about the ethical use of AI and its potential impact on jobs, privacy, and society.

## Role of Academia:

- **Incorporating AI into Curricula:** Universities and schools need to integrate AI and data science courses into their curricula, preparing students for an AI-driven world.
- **Promoting Ethical Use:** Teach students about the ethical implications of AI, emphasizing responsible usage and the importance of creativity and critical thinking.
- **Collaborative Research:** Academia should partner with industries and the government to conduct research on AI applications tailored to Pakistan's needs, such as agriculture, healthcare, and governance.

## Role of Corporates and Businesses:

- **Reskilling Employees:** Businesses should invest in reskilling their employees to adapt to AI-driven changes,

focusing on tasks that require creativity and human judgment.

- **Leveraging AI Responsibly:** Companies must use generative AI responsibly, ensuring transparency and accountability in their AI-driven operations.
- **Innovation Hubs:** Corporations can establish AI innovation hubs to encourage the development of local solutions and products.

## Role of Society:

- **Adapting to Change:** Citizens must embrace a culture of continuous learning and adaptability to stay relevant in a rapidly changing job market.
- **Balancing AI Use:** While leveraging AI's benefits, individuals should strive to maintain a balance by nurturing creativity and independent thinking.

## Putting Generative AI to Pakistan's Advantage

Generative AI has the potential to address some of Pakistan's most pressing challenges, from education gaps to healthcare disparities. By fostering collaboration between the government, academia, and businesses, the country can:

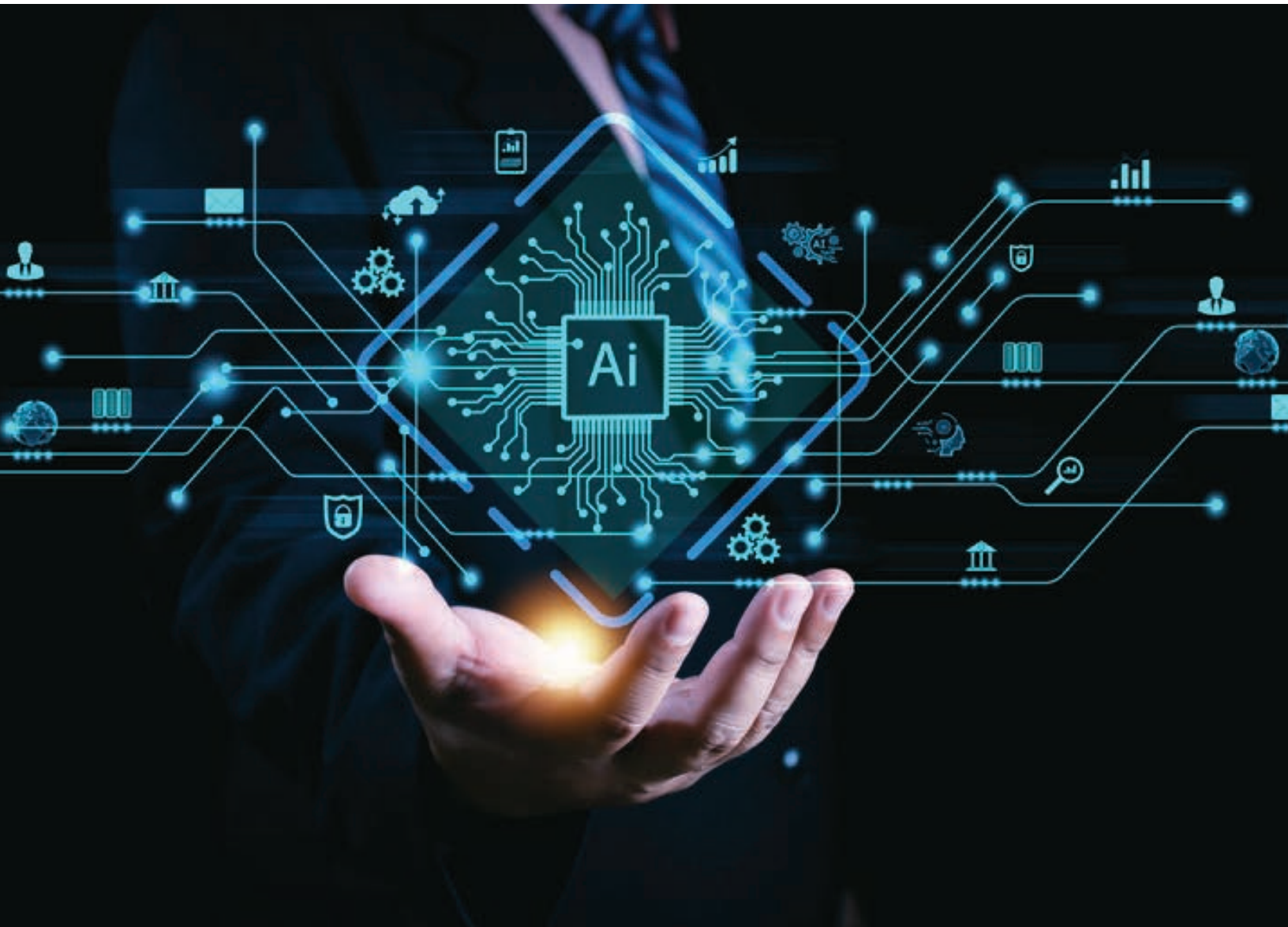
- **Improve Public Services:** Use AI to streamline public service delivery, enhancing efficiency and transparency.
- **Boost Exports:** Develop AI-driven solutions that cater to international markets, positioning Pakistan as a global player in the AI industry.
- **Enhance Agricultural Productivity:** AI tools can help farmers optimize irrigation, predict weather patterns, and improve crop yields.
- **Strengthen Disaster Management:** AI-powered simulations can predict natural disasters, enabling timely interventions and reducing loss of life and property.

## Conclusion:

Generative AI offers unprecedented opportunities for Pakistan to leapfrog its development challenges and emerge as a competitive global player. However, the threats it poses, including job displacement, academic dishonesty, and ethical dilemmas, cannot be ignored. By fostering a collaborative approach involving the government, academia, businesses, and society, Pakistan can harness the transformative power of generative AI while mitigating its risks. The key lies in striking a balance between embracing technology and nurturing human creativity, ensuring a future where AI serves as an enabler rather than a replacement for human potential.



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# Use Cases of Generative AI in Finance

Mr. Muhammad Shehzad Dhedhi, FCA

In the evolving financial landscape, technology continues to redefine traditional roles, transforming processes and unlocking new opportunities. Among the latest breakthroughs, generative artificial intelligence (AI) is emerging as a game-changer, particularly for Chief Financial Officers (CFOs) who are navigating increasingly complex financial and operational environments. Generative AI's ability to synthesize data, predict trends, and create innovative solutions has significant implications for finance leaders seeking to maintain a competitive edge.

This article explores the use cases of generative AI in finance, particularly for CFOs, and how this transformative technology can revolutionize decision-making, streamline operations, and

**Traditional forecasting methods often struggle with uncertainty. Generative AI can integrate unstructured data, such as social media sentiment or macroeconomic news, to provide more nuanced predictions.**

## Regulations, such as IFRS updates or ESG reporting requirements, can be challenging to interpret and implement. Generative AI can analyse regulatory documents and summarize key implications for CFOs, reducing reliance on external consultants.

enhance strategic insights. Generative AI refers to advanced machine learning models, such as GPT (Generative Pre-trained Transformer), which are capable of generating new content, insights, and solutions from vast datasets. Unlike traditional AI models designed for specific tasks, generative AI can analyze and interpret data, simulate scenarios, and produce coherent, meaningful outputs, including text, financial reports, and predictive analytics.

In finance, where data is both vast and dynamic, generative AI provides unparalleled opportunities to address challenges, identify efficiencies, and predict future trends.

### Financial Planning and Forecasting

CFOs rely heavily on accurate financial planning and forecasting to guide their organizations toward long-term success. Generative AI can:

- **Automate Forecasting Models:** By analyzing historical financial data, generative AI can develop and refine forecasting models that account for real-time variables such as economic indicators, market trends, and geopolitical risks.
- **Scenario Planning:** Generative AI can simulate multiple financial scenarios, providing CFOs with insights into potential outcomes of strategic decisions. For example, it can model the impact of a merger, an acquisition, or a new product launch.
- **Enhanced Accuracy:** Traditional forecasting methods often struggle with uncertainty. Generative AI can integrate unstructured data, such as social media sentiment or macroeconomic news, to provide more nuanced predictions.

For example, during the COVID-19 pandemic, companies that used AI-driven forecasting were better equipped to navigate unprecedented disruption.

### Financial Reporting and Compliance

As stewards of financial integrity, CFOs oversee reporting

processes that must comply with complex regulatory standards. Generative AI can streamline these tasks by:

- **Automating Report Generation:** Generative AI tools can produce detailed financial reports by analyzing transactional data and applying regulatory standards. This not only saves time but also ensures compliance with accuracy.
- **Interpreting New Regulations:** Regulations, such as IFRS updates or ESG reporting requirements, can be challenging to interpret and implement. Generative AI can analyze regulatory documents and summarize key implications for CFOs, reducing reliance on external consultants.
- **Real-Time Audits:** AI-driven tools can continuously monitor financial transactions to identify anomalies or potential compliance issues, reducing the risk of regulatory penalties.

For instance, banks are already leveraging AI to ensure compliance with anti-money laundering (AML) and know-your-customer (KYC) regulations.

### Cost Optimization

In an environment of tightening margins, cost optimization is a critical priority for CFOs. Generative AI can help in:

- **Expense Analysis:** By analyzing spending patterns, generative AI can identify inefficiencies and recommend cost-saving measures, such as renegotiating supplier contracts or optimizing resource allocation.
- **Dynamic Budgeting:** Traditional budgeting methods are often static and outdated by the time they're implemented. Generative AI enables dynamic budgeting that adapts in real-time based on market conditions, operational changes, or revenue fluctuations.
- **Procurement Optimization:** AI can analyze procurement data to recommend cost-effective suppliers, predict price fluctuations, and optimize inventory management.

Generative AI's ability to synthesize and analyze vast datasets ensures CFOs can make data-driven decisions to maximize cost efficiency.

### Strategic Decision-Making

The CFO's role has expanded beyond financial stewardship to include strategic decision-making. Generative AI supports this evolution by:

- **Market Trend Analysis:** By analyzing industry trends, competitor strategies, and customer behavior, generative AI provides CFOs with actionable insights to guide business strategy.

**M&A Support:** In mergers and acquisitions, generative AI can analyze target company data to identify synergies, risks, and valuation considerations.

- **Risk Management:** Generative AI models can predict risks, such as supply chain disruptions, currency fluctuations, or cybersecurity threats, allowing CFOs to proactively mitigate them.

For example, an AI-driven dashboard could alert a CFO to emerging risks in a key supplier market, enabling preemptive action.

## Investor Relations and Stakeholder Communication

CFOs play a pivotal role in managing investor and stakeholder relationships. Generative AI can:

- **Generate Investor Reports:** AI tools can create detailed, personalized investor reports that align with stakeholder interests and concerns.
- **Enhance Presentations:** By synthesizing financial data and market insights, generative AI can produce compelling presentations for board meetings, earnings calls, and investor pitches.
- **Sentiment Analysis:** Generative AI can analyze stakeholder feedback, social media sentiment, and market reactions to guide communication strategies.

This ensures CFOs can present complex financial information in a clear, impactful manner that builds trust and confidence.

## Treasury and Cash Management

Effective treasury management is essential for liquidity and financial health. Generative AI enhances this function by:

- **Predicting Cash Flow:** AI can analyze payment cycles, revenue streams, and external factors to predict cash flow patterns, helping CFOs ensure liquidity during peak operational periods.
- **Investment Strategies:** Generative AI can recommend investment opportunities by analyzing market conditions, interest rate trends, and risk factors.
- **Currency Hedging:** For multinational corporations, AI can optimize currency hedging strategies by predicting exchange rate movements and suggesting hedging instruments.

These capabilities provide CFOs with the tools to maintain financial stability and optimize returns.

## Workforce Productivity

As finance teams face increasing workloads, generative AI can augment human capabilities, enabling teams to focus on higher-value tasks. Key applications include:

- **Automating Routine Tasks:** AI can automate repetitive tasks such as data entry, invoice processing, and reconciliations, freeing up time for strategic activities.
- **Upskilling Teams:** Generative AI tools can provide personalized training content to upskill finance teams in areas like data analytics, ESG reporting, and regulatory compliance.
- **Collaboration Tools:** AI-driven platforms can enhance collaboration by creating shared dashboards, summarizing meeting notes, and suggesting actionable insights.

By empowering teams with AI, CFOs can build a more agile and productive finance function.

## Driving ESG and Sustainability Goals

Environmental, Social, and Governance (ESG) considerations are becoming integral to corporate strategy. Generative AI can help CFOs drive sustainability initiatives by:

- **Tracking ESG Metrics:** AI can analyze operational data to measure carbon emissions, energy consumption, and other ESG metrics.
- **Reporting Frameworks:** Generative AI can automate the creation of ESG reports, ensuring alignment with frameworks such as GRI, SASB, or TCFD.
- **Scenario Analysis:** CFOs can use AI to model the financial impact of sustainability initiatives, such as transitioning to renewable energy or launching green products.

This not only ensures compliance but also positions the company as a responsible corporate citizen.

## Challenges and Considerations

While the potential of generative AI in finance is immense, it is not without challenges. CFOs must address:

- **Data Quality:** Generative AI relies on high-quality data. Poor data governance can lead to inaccurate insights.
- **Ethical Concerns:** Using AI in decision-making raises ethical questions around transparency, bias, and accountability.
- **Integration Costs:** Implementing AI solutions requires investment in technology, infrastructure, and training.
- **Regulatory Compliance:** As AI adoption grows, regulators are likely to introduce specific requirements, necessitating proactive compliance strategies.

By addressing these challenges, CFOs can unlock the full potential of generative AI while minimizing risks.

## Conclusion

Generative AI represents the new frontier in finance, offering CFOs powerful tools to transform operations, enhance decision-making, and drive strategic initiatives. From automating routine tasks to enabling dynamic forecasting and ESG reporting, the applications of generative AI are vast and impactful.

As CFOs embrace this technology, they must adopt a balanced approach, ensuring robust data governance, ethical practices, and alignment with organizational goals. By leveraging generative AI, finance leaders can position their organizations for sustainable growth in an increasingly competitive and complex financial landscape.

The future of finance is not just digital—it is generative. The question for CFOs is no longer whether to adopt generative AI, but how quickly they can integrate it to stay ahead of the curve.



The writer is a Fellow Chartered Accountant and is the owner of the CFO Club UK & Pakistan.



# AI-Powered Audits: Unlocking Efficiencies, Effectiveness, and Insights in an Audit

Mr. Muhammad Zain Ashraf, ACA

## Introduction

The accounting and auditing profession is at a pivotal moment, with artificial intelligence (AI) emerging as a transformative force. Alongside advanced data analytics, block-chain, and cloud technologies, AI is redefining how audits are performed. The integration of AI empowers auditors to enhance efficiency, ensure accuracy, and uncover deeper insights. By automating routine tasks and enabling continuous monitoring, AI allows auditors to focus on judgment-based, high-value activities that drive better financial and strategic decisions.

This article explores the profound impact of AI on auditing, the skills auditors need to excel in this new era, practical use cases of AI in audits, and the challenges and opportunities that lie ahead.

## The Impact of AI on Auditing

AI has significantly impacted financial statement auditing, transforming a traditionally manual, periodic process into a dynamic, data-driven one. By analyzing vast datasets with speed and precision, AI allows auditors to uncover risks,



detect anomalies, and enhance audit quality while reducing time spent on repetitive tasks. Key areas where AI is reshaping auditing include:

### Enhanced Risk Assessment

AI tools analyze internal and external datasets to identify risks and patterns that may be overlooked by traditional methods. This facilitates a more comprehensive and focused risk assessment process, enabling auditors to allocate resources more effectively.

### Anomaly Detection

AI's ability to scan vast amounts of transactional data makes it highly effective in detecting unusual patterns or outliers that could indicate fraud or errors. This functionality allows auditors to prioritize high-risk areas and streamline their investigations.

### Data Analysis and Visualization

AI transforms complex datasets into visual, easy-to-understand insights. By creating interactive dashboards and graphs, AI tools improve decision-making and enhance stakeholder communication.

### Automated Transaction Testing

Routine audit tasks, such as testing transactions for compliance or correctness, can now be automated with AI. This reduces manual errors and frees auditors to focus on more nuanced and strategic analyses.

### Real-Time Monitoring

AI enables continuous monitoring of financial data, allowing auditors to identify potential issues early and address them proactively. This shift from periodic to real-time auditing ensures that financial health is consistently assessed and managed.

### Predictive Analytics

AI models leverage historical data to predict potential financial risks or outcomes. This foresight aids auditors in advising clients on mitigating risks and preparing for future challenges. By streamlining these areas, AI has elevated the auditing profession to one that is not only more efficient but also more insightful and strategic.

**“64% of companies surveyed expect auditors to have a role in evaluating their use of AI in financial reporting, providing assurance and attestation over their AI controls.”** KPMG.

### Key Skills Required by Auditors to Leverage AI

The integration of AI into auditing requires auditors to evolve their skill sets to effectively harness this technology's potential. In the AI-driven landscape, auditors must develop:

#### Prompt-Engineering

With generative AI tools like ChatGPT becoming part of the

auditing workflow, auditors must master the art of creating precise prompts to obtain accurate and meaningful outputs.

#### Critical Thinking and Decision-Making

AI can process vast amounts of information, but auditors must apply critical thinking to validate AI outputs and provide actionable recommendations. Decision-making remains a requisite human strength in the auditing process.

#### AI and Data Analytics Expertise

Auditors need a basic understanding of AI technologies, including machine learning, natural language processing, and data visualization tools. Proficiency in analyzing large datasets and interpreting AI-generated insights is critical.

#### Cybersecurity Awareness

With AI handling sensitive financial data, auditors must ensure robust data security. Cybersecurity expertise is essential to safeguard information against breaches and maintain client trust.

#### Adaptability and Continuous Learning

The rapid pace of technological advancement demands that auditors continuously update their knowledge and adapt to new tools and methodologies. Firms investing in training programs can help auditors stay ahead in this evolving landscape.

#### Communication and Collaboration

As AI generates complex analyses, auditors must possess strong communication skills to convey insights effectively to clients and stakeholders. Collaborating with IT and data science teams is also crucial for leveraging AI's full potential. Equipping auditors with these skills will enable them to transition from compliance enforcers to strategic advisors, delivering higher value to clients while advancing the profession.

**“Prompt engineering is one of the most in-demand skills.”** FORBES

#### Use Cases of AI in Auditing

The applications of AI in auditing are extensive, offering both efficiency and enhanced accuracy. Generative AI, a subset of AI, is particularly noteworthy for its ability to create new content based on existing data. Here are some of its most impactful use cases:

#### Automated Financial Reporting

Generative AI can draft financial reports, audit memos, and summaries with remarkable speed and accuracy. This reduces administrative burdens and allows auditors to focus on complex, judgment-driven tasks.

#### Enhanced Risk Management

AI's ability to analyze unstructured data, such as contracts and emails, provides auditors with a holistic view of financial and operational risks. By identifying compliance issues

embedded in textual data, AI enables more robust risk management.

### Discrepancy Detection

AI tools can analyze transactional data to identify discrepancies or inconsistencies, ensuring greater reliability in audits. This capability enhances fraud detection and strengthens the integrity of financial reporting.

### Predictive Analytics for Strategic Planning

AI-powered predictive models help auditors forecast potential risks and trends, enabling proactive financial and operational planning.

### Full Population Testing

Unlike traditional methods that rely on sample-based testing, AI enables full-population testing of transactions. This ensures comprehensive coverage and reduces the risks associated with sampling errors.

These use cases demonstrate AI's transformative potential in auditing, making it an indispensable tool for the modern auditor.

**“ Nearly 72 % of companies surveyed are piloting or using AI in financial reporting. In three years, that is expected increase to 99 % of companies.” KPMG**

### Challenges and Ethical Considerations

AI's integration into auditing is not without its challenges. Firms must navigate issues such as:

- **Data Privacy Concerns:** Protecting sensitive client data used in AI systems is paramount.
- **Bias and Reliability:** AI algorithms can inherit biases from training data that was used to train the large language model (LLM) that is being used in the audit, leading to inaccurate or incomplete analyses.
- **Human Oversight:** While AI can enhance efficiency, auditors must maintain vigilance to ensure that AI outputs are contextually accurate and relevant.



### The Future of Auditing

The future of auditing lies in seamlessly integrating AI with human expertise. While technology can automate routine tasks and process complex data, auditors bring critical oversight, context, and professional judgment that no algorithm can replicate.

### Dynamic and Continuous Auditing

AI will enable real-time financial monitoring, shifting the focus from retrospective reviews to proactive governance. This evolution will ensure that financial health is consistently managed and risks are addressed as they arise.

### Strategic Advisory Services

With routine tasks automated, auditors will have more bandwidth to offer advisory services, including financial planning, compliance consulting, and risk management.

### Human-AI Collaboration

Firms investing in generative AI tools emphasize that these technologies will augment, not replace, human auditors. Supervisors reviewing AI-assisted work must apply the same diligence as they would to traditional outputs, ensuring quality and reliability.

The auditing profession's resilience lies in its adaptability. By embracing AI as a collaborative partner, auditors can enhance their strategic value and thrive in a rapidly evolving financial landscape.

### Conclusion

AI is revolutionizing the auditing profession by automating repetitive tasks, enhancing accuracy, and providing deeper insights. However, the true value of AI lies in its ability to empower auditors, enabling them to deliver more strategic, client-focused services.

For auditors to fully benefit from AI, they must embrace continuous learning, invest in high-quality data, and develop the technical skills needed to leverage AI tools effectively. By combining technological innovation with professional expertise, auditors can redefine their role as strategic partners in the financial reporting ecosystem.

As we step into this new frontier of AI-powered auditing, the profession's future promises to be more dynamic, insightful, and impactful than ever before.



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# Revolutionizing Finance with Generative AI: Opportunities and Challenges

Mr. Waqas Ahmed, ACA (ICAEW)

The financial industry faces one of the most significant transformations due to the incorporation of Generative Artificial Intelligence. They give rise to new generation content, resulting in different finance transformations, including risk analysis and customer care. Finance professionals need to assimilate with the advantages, applications, and risks of Generative AI.

## Advantages Of Generative AI in the Financial Industries

### Faster Decision Making and Better Data Processing

The capabilities of generative AI are that it can understand large amounts of information and make conclusions that would be impossible to come across otherwise. Some of the most popular Generative AI applications within the finance industry include virtual assistance, search for financial documents and recommendations, and capital market analysis (Lee et al., 2024). Generative AI has proven significant potential in improving decision-making and enhancing financial analytics through diverse applications.

### Improved Risk Management

Through Generative AI, the possible risks can be identified,

given different financial scenarios and, therefore, their effects. Any events in the economic sphere, such as market downturns, changes in interest rates, and the like, can be modelled by AI frameworks, and this means that there is a likelihood of an economy being compromised, hence the need to begin taking measures (Campbell, & Koffi, 2024). This approach will significantly help institutions analyze risks and plan to prevent them from impacting financial stability

### Manufacturing Efficiency and Cost Savings

These are the following approaches through which generative AI can play an important role in automating repetitive activities that are more into data entry, report preparation, and compliance verifying types of jobs, which could minimize the overall operational burden and cost. For instance, you may be able to terminate the need to prepare financial statements with preciseness and on schedule while letting the staff concentrate on analytical work. Leaders in financial reporting are already incorporating AI and Generative AI into reporting processes (Blankespoor, deHaan & Li, 2024). This has shown significant improvements in efficiency and accuracy and noted substantial cost savings in its many uses.

## Enhanced Customer Experience

Customers' AI conversational agents, such as chatbots and virtual assistants, answer customers' questions and perform transactions quickly. This enhances customer satisfaction and results in a degree of customer loyalty. Platforms within the financial industry incorporating AI technologies rapidly expand to deliver round-the-clock customer service to address customers' perceived needs (Blankespoor, deHaan, & Li, 2024). AI is transforming the financial sector by helping financial advisors identify trends and process enormous data to meet their clients' needs.

## Case Demo and Actual Uses

### AI takes over private-creditor organizations

The non-bank lending market is highly competitive; to turn into pioneers, private credit companies resort to artificial intelligence. For example, in Liquidity Group, AI is seen in executing deal-making and investment techniques; due diligence procedures are shown to improve efficiency (Liquidity Group, 2024). Liquidity Group was launched in 2018 and is an Artificial Intelligence-based fintech direct lender with a multi-billion technical portfolio in various funds and facilities. It connects small to medium enterprises, corporate credit, and private equity. AI cuts the time it used to take to draft term sheets from week to day, which significantly improves the lending process (Hurliman, 2024). Expectedly, the emerging new AI technology is grabbing the attention of private credit managers.

### AI for Financial Institutions: Generative AI

CFOs are exploring how Generative AI could be employed in financial processes to instantly relax the original functions and improve efficiency while generating predictive models. Deloitte's CFO survey noted that many consider AI in their plans, including generating scripts for earnings calls to scrutinize new regulations (Grabowski et al., 2023). It should also increase efficiency, reduce cost, and make better decisions. Deloitte advised that CFOs use Artificial Intelligence to change the operations of the finance organization concerning reporting and compliance (Deloitte, 2023).

### AI in Customer Service

Financial institutions are implementing AI-activated chatbots to respond to customers' inquiries and accelerate solutions to the financial services and products customers need to enhance customer satisfaction. These artificial intelligence systems can attend to facts and queries, simple or advanced, simple or complex transactions in the shortest time and with precision. Artificial intelligence in banking includes even fraud check and prevention, risk analysis and assessment, and credit scoring, among other functions (Grabowski et al., 2023). For instance, Erica by Bank of America also came into operation in 2016 to assist customers with their banking needs anytime. Since its inception, Erica has aimed to deliver customized customer service, fraud prevention, and risk minimization. AI applies big data, machine learning, and natural language processing to real-time banking services.

## Possible Problems and Threats

### Data Quality and Bias

Data quality is, instead, an essential aspect of the functionality of AI systems. Inaccurate or biased input damages the output process and the resulting decisions. Thus, to guarantee the

quality of decisions made with the help of AI, credit institutions should ensure the quality of data used in their AI model training (Challoumis, 2024). Due to embedded bias and the insufficiency of safeguards for privacy in AI solutions, AI calls for quality data.

### Regulatory Compliance

The financial sector is heavily governed and regulated; thus, artificial intelligence must be used based on current laws and regulations. Financial institutions deploy AI platforms, but these organizations must operate under complicated legal frameworks regarding the legal recognition of AI applications and steer clear of legal and economic consequences (Challoumis, 2024). This includes avoiding situations in which the AI system itself perpetrates the violation of the privacy law or other misconduct. Such violation demonstrates another considerable risk in uncertainty in the regulation and governance of Generative AI in the financial sector.

### Job Displacement Concerns

The criticism concerning possessing artificial intelligence is in gaining a positive angle to eliminate human jobs, especially those involving repetitive exercises. Despite its ability to drive automation in specific procedures or functions, it is usually seen more as a workforce augmentation. AI will fundamentally disrupt a profession. Therefore, the most appropriate strategy is to acquire competencies that will enable integration with the technology. This would create more meaningful work in problem-solving and direct customer interactions.

### Security and Privacy Risks

There is also the challenge of security risks in the cybersecurity domain due to exposure to threats like data theft and adversarial ones, which are fatal to financial information. Incorporating AI in financial services is still effective in addressing these threats. However, solid cybersecurity practices must be directed toward it. These are the problems of the financial sector organizations that need to maintain a high level of data security to retain their customer's trust.

## Conclusion

Generative AI is one of the outstanding achievements in the financial field as it offers several benefits, such as more efficient data processing, management of risks, and functioning, as well as a more satisfying experience for consumers. Such complexities must be explained to financial specialists so the latter can work on unlocking the incredible potential of Generative AI while avoiding the most significant risks. By ensuring that it takes due care with the implementation of AI technology and observing innovation, the financial sector can benefit immensely from the technology.



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# Harnessing Generative AI for Sustainable Power Solutions

Mr. Khizar Hayat, FCA

## The Alternatives in InfoTechs

### MOS (Margin of Safety)

Info applications would be evolving with passages containing cushions for abreast.

Brain simulations might in turn be variants keeping the thoughts processes & cognitions disparities, multiplication & spaces for imaginary flexibilities.

Core essence is perfect blending of cutting edges, mix proportions of development skillsets in circumvent to coaxial, lucid tracking for end- users or fields applications.

While Prolificacy margins are very steady, delicate, & higher in delicacy / overridden in both short / long terms executions.Areas of operate - abilities might would carry weights in its own.

Acceptance levels would be more prevalent in high-tech economies / documented imparities cultural respirations. Adaption safe would be paramount for future coherent models' efficacies / disposals.

### IAL (Acceptability Levels Internationally)

Technological drives may be accelerated exorbitantly by advanced high-tech nations keeping international acceptance

levels equality yet to establish. Greater the spread universally, more acceptance levels would be emulsified.

Phases of development, successful operating runs may pave way for farther depth in artificial intelligence algorithms & interfaces.

Spreads or emergent variants may be articulated around: -

- Financial Markets.
- Technological Processes.
- Embedded Forms.
- Energy Alternatives.
- Ecological footprint.
- Diagnostics.
- Environmental Metrics.

### ~ @ EMF (Future Markets Extents)

G AI (Generative Artificial intelligence) proficiencies would be mimics of texts solutions with human cognitive excellencies built in processes.

Future market extent would be superb into: -

- Divulgence of resources & market situations.
- Efficacious deployment.
- Risk free Outcomes.
- Value addition or users support.
- Markets development.
- Acceptance Levels.

### DEF (Dulux Efficacy Femble)

AI Techno - moves or schema are very dependable on development, deployment, devolution trust worthiness. G AI solutions would seize up to extents of given programming parallelograms & accomodations.

G AI or otherwise may resound / resonate with human interfaces / interactions / interventions. Rest assure, it may be a mere gadgets in isolate. Textural fermentation in itself for RAI would predominantly be prone to judgement or human utilities.

Modern gadgets including G AI coupled with "those charged with governance" may be mere / more of ceremonial sort of textures in commercial domains to keep afloat in run. Microbionic spams ( whether customize/ occasional) would profilate within financial frames / ecoenvirment spontaneously under / mingled up regulatory whims / operating schemas / setups. Documentary imaging encompassing the value chain accreditations may be cornerstones for very success of G AI solutions / commercial velocity / vividly. Legitimacy would in turn be built around:-

- Tax robustness.
- Budgeting Styles & Consumption patterns.
- Boards Preferences / capacities.
- Regulatory amplifications.
- Sister Concerns Supports.
- Technological Processes / Efficacies.
- Absorptions levels.
- Turnarounds / Resumptions.

G AI or perriferal Infosys would no more predominant in isolation. It would only supplement / ease out processes but with a - warranty for probable guarding Adequacies.

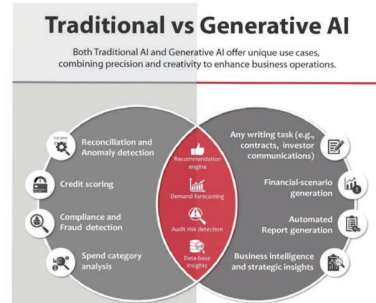
### G AI For Struggling Economies :-

Robust runs of G AI may be bundled with adequacy of;

- IC buds ( itemized cash flow Budgets).
- Schema differentials ( design, development, tests runs , operatus, debugs , arrangements).
- Palenthorpha of low & middle levels income countries. [Higher electricity costs, Infrastructural support, Regulatory burdens, Compliance Subjudices]
- Higher purchasing power kinder success runs. Regulatory amplification or otherwise be on patterns of mutuality.
- Applications, G AI / AI solutions & Infosys / systems coverages for MOS ( Marginal Safety) absorptions.

Practicing/Lego Arena may be superbly ornamented with Generative AI sophists. Culvatures might be around:-

- Contracts Generation/ Analysis.
- Pleadings/ Motion Automations.
- Legal chatbots.
- Multi languages Support.
- Professional Updates.
- Knowledge Management.
- Client Correspondence Management.
- Intellectual property management.
- Litigation Financing.
- Continuous Lego Trainings.
- E discovery/ evidence reviews.



Intera over - lapping common Finance Applications of both AI & G AI technologies may support businesses domains in:-

- Demand forecasting.
- Recommendations Engines for stakes.
- Data based insights.
- Audit risk detection.

G AI facilitations in terms of financial interacacies picturing would spread around:-

- Writing transcripts, formal contracts, Investors communications.
- Financial modeling/ scenarios generation.

## Cover Story

- Reports generation automations.
- Strategic insights/ businesses intellectual developments.
- Businesses Processes mimics / Add-ons facilitations.

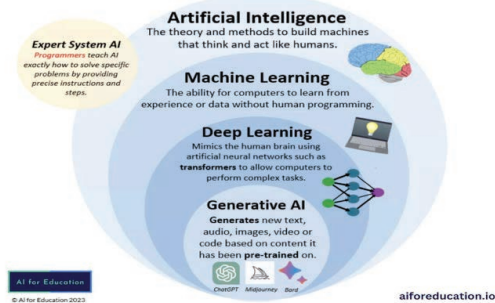
Edge by G AI over traditional AI would revolve around ideas / contents generation, answering abilities while latter aid in decision making. Traditional AI is more acin towards detection, analytics, scoring & reconciliation in financial terms.

Different delicate alternative braining techniques/ logics applications would have evolved into present forms human mimics in soft capital amplifications:-

- Machines having Human like / minimalistic thoughts & acts.
- Computers learning behaviors.
- Artificial neural networks manipulation.
- Generation of new ideas ( Text, codes, videos, images) with pretrained AI accretions.
- AI kits utilities [ ChatGPT, Midjourney, Bord]

### Defining Generative AI

To understand generative artificial intelligence (GenAI), we first need to understand how the technology builds from each of the AI subcategories listed below.

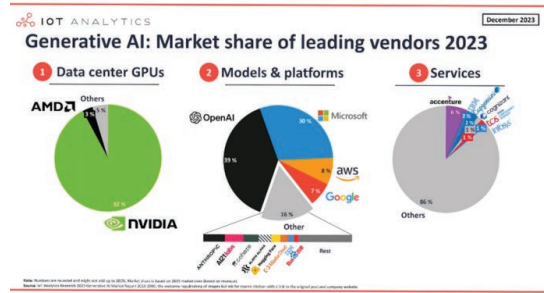
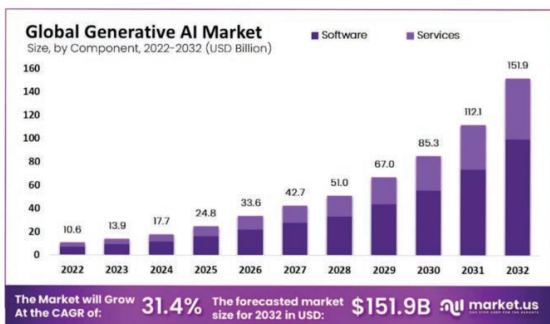


Financial Sector (Banking & Finance) may be potential hub for AI Technological drives.

- Intra pollation – [ Security and detection, credit wellness , predictive analytics, operations / resources optimization, automations add-ons, customer support with AI chatbots]
- Exterior Amulsifications – [Markets trends , customer focus, compliance upsets]

G AI Global market niche would be escalated gradually being software component is surpassing services component sizeably. Aggregate market size would be projectile into

- 2022 - \$ 10.6 B To
- 2032 - \$ 251.9 B



Businesses Processes automation triggered under Generative AI Scenario intelligent Collections ( SAP Business AI ) would be mingled around :-

- Finance Applications/ Intelligent Collections – ( Finance)
- SAP Extended warehouse management , Predictive replenishment, Transport management – (Supply chain )
- SAP analytics cloud – ( IT & Cross Function)
- SAP Progression Factors – ( HR)
- SAP Digital Assistant for CX – ( Marketing & Commerce)
- SAP Intelligent product recommendations
- SAP Ariba buying, business network, central invoice management – ( Procurement)

AI / G AI adaption around various industries be summed up:-

- Technology – 64%
- Financial Services – 10%
- Healthcare – 6%
- Telecommunications/ Automotive – 4% each

Topological Infosys trends would spams largely overlapping among belowemergence management:-

- AI or G AI it self
- Autonomous systems
- Sustainability
- AI Policies
- Cyber Security

Advantages & benefits associated with G AI spread might be bundled around :-

- High initial costs.
- Overall reliances on AI systems.
- Expertise/ training availability.
- Integrity, integration / infrastructure.
- Ethical dimensions.
- Data dimensions.



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# Beyond the Hype: Artificial Intelligence Reshaping the Finance Profession

Mr. Asghar Omair, FCA

## Is this the first significant transformation in the finance profession?

There was a time when accountants used to work with paper based ledgers. With the arrival of computers we moved from physical papers to spreadsheets, significantly changing how we approach our work. Then came the ERP with seamless data flows, real time reporting directly from the source without need of accountants. Today we are at the verge of another big evolution: The era of Artificial Intelligence (AI).

The finance profession has undergone significant transformations, from paper-based ledgers to spreadsheets, ERPs, and now AI. Each innovation has reshaped the role of finance professionals, transitioning from data crunchers to strategic advisors.



To an average person AI might primarily means platform like ChatGPT and other forms of Generative AI; however, for accountants, should we limit our prospective to generative AI alone? For those of us who've guided businesses through countless changes in the past, the broader implications of AI are even more promising in the future.

As corporate professionals we've learned that the fast changing technology is integral part of corporate eco system. We all remember ERPs that initially seems a luxury but ultimately transformed the finance profession from data cruncher to strategic advisors. AI offers similar opportunity if not greater but we have to look beyond the hype of most talked-about AI applications only.

### AI: An Eco System, not just a few Apps

Have you ever wondered, what are the applications of AI in finance beyond the generative AI? Quite a bit, actually. Machine learning systems can analyze millions of transactions much faster than a human brain, deep learning models can identify hidden trends and dependencies oblivious to traditional trend analysis and regression models empowering us with quicker yet accurate decisions. With Internet Of Things (IoT) devices not only perform these functions but also generating data monitoring and reporting its performance, providing huge piles of data to decision makers to act upon

The most thought-provoking impact of this revolution is likely change in role of finance professional which are expected to be much broadened now. Crunching and presenting historical data and information is now just a small part of the responsibility matrix of a finance professional. Today's stakeholders consider us the navigator of the future that help the Captain in finding the right path to the future through insights, daily dashboards and the story behind the numbers. With the increase of data pouring from all directions such as ERPs, CRM platforms, supply chain sensors, we need something more powerful and robust than static reports and spreadsheet based dashboards. AI is the area which can help us bridge the gap between increased dataflow, stakeholder's expectations and complex business requirements and that too with enhanced accuracy and on real time basis.

### Why it Matters to us

Just as with previous transformations, adopting AI tools is essential to remain relevant and address the challenges of the evolving business landscape. As dictated by history, our profession has to evolve with every shift in business landscape. The current shift is towards instant and rapid decision making based on huge piles of data. AI can help meet this expectation.

AI adoption is no longer just a topic of seminars and TED talks. Real companies are already implementing AI and reaping the benefit of gaining an early lead in this rapidly evolving field:

- Levi Strauss & Co. has reportedly used AI-driven forecasting tools to better manage its inventory and working capital. The company integrated predictive analytics into its financial planning to anticipate market swings more effectively.

<https://supplychaindigital.com/technology/levis-ai-forecasting-improves-supply-chain-accuracy>

- Deloitte, working with Amazon Web Services (AWS), has helped finance teams implement AI-driven analytics solutions enabling CFOs to quickly identify financial trends and risks hidden in enormous datasets.

<https://www2.deloitte.com/us/en/pages/about-deloitte/articles/press-releases/deloitte-launches-gen-ai-accelerator-program-with-aws.html>

- KPMG's "Clara" Platform uses machine learning and advanced analytics to enhance audit quality and efficiency. According to a KPMG whitepaper published in 2021, Clara's AI-driven analyses help audit teams focus more on insights rather than manual checks.

<https://kpmg.com/us/en/articles/2024/transforming-the-audit-experience-with-ai.html>

- PwC's "Halo for Journals" platform uses AI to analyze entire populations of journal entries, helping auditors spot unusual patterns that would've been nearly impossible to identify manually, given auditors the ability to move from sample-based testing to a more complete and insightful review.

<https://www.pwc.com/mu/en/services/crs/tech-assurance/general-ledger-audit.html>

These examples are the stories to inspire from where leading and top-tier firms are integrating AI in routine process and daily tasks for enhancing the prediction capabilities, improving quality and accuracy while reducing time consumed on routine activities.

### Future Skills Expectations for Finance Professionals

We have talked a lot about the changes to come but now let's focus on the changes that needs to be adopted by finance professionals. From the start of our careers, Excel has been a must-have tool for finance professionals. Then came the ERPs, advance excel dashboards and more recently the emergence of interactive BI tools. However, the future world is about capability of data manipulation. Learning basic programming, such as python, can greatly enhance our ability to interact with AI driven ecosystems. Tools like Power Automate can help us automate a lot of manual process with little to no coding required whereas Power BI can greatly enhance the visualization of our reports.

Take, for example, the work of firms featured in the Harvard Business Review (October 2021),

While generative AI like ChatGPT garners attention, the broader AI ecosystem offers transformative tools like machine learning for transaction analysis, deep learning for trend identification, and IoT for real-time data generation, enhancing decision-making accuracy and speed.

The boundaries between finance, IT, and data science are blurring, leading to the rise of hybrid teams that integrate accountants with technologists. This collaboration fosters faster decision-making, improved compliance, and more efficient processes, empowering finance professionals to remain relevant in the AI era.

<https://hbsp.harvard.edu/product/R2105G-PDF-ENG>, where finance experts combined their subject knowledge with AI-powered dashboards to offer almost immediate price advice. Although they didn't pursue careers as data scientists, these people gained enough knowledge to interact with the data in novel ways. Consider it a spectrum, with traditional accountants at one end and specialized data scientists at the other. By combining our expertise in data manipulation and finance, we can now find a middle ground.

## Breaking Silos: Accountants, Data Engineers, and IT

To fully harness AI's potential, collaboration across disciplines is becoming increasingly important. As AI tools mature, the boundaries between three distinct professions—finance, IT, and data science—are beginning to blur. With the help of generative AI finance professional can now transgress into the domain of IT and data sciences to perform task that was previously unthinkable to be performed by finance professionals.

Besides transgressing into other domains, a new emerging trend of hybrid teams is also something to follow-on. The Wall Street Journal's CFO Journal (March 2023) discussed how major corporations are building "hybrid" teams, pairing accountants with technologists resulting in faster closes, better compliances and quicker and better decision making.

## Conclusion: Time to Transform and Embrace the AI Ecosystem

Our profession has always evolved with each technological advancement. While these changes can be uncomfortable and often face resistance, those who embrace new tools typically find themselves with greater influence and better career prospects. The same we witnessed during ERPs, integrated BIs and history will repeat itself in the new ERA of AI.

With the introduction of AI there is an opportunity to become more valuable to the business world. Instead of leaning back and letting data scientists take the wheel, we should step forward, integrate AI tools into our arsenal, and become the steering wheel of the organization with the insights generated from combination of financial expertise and AI tools in the world full of data.

This moment is about looking the opportunities beyond conversational AI tools like ChatGPT and understanding the AI predictive models, anomaly detection systems, intelligent automation and even combining these tools with generative AI to use combined power of while AI ecosystem. AI platforms are here to augment our capabilities, not to replace us. While the nature of our roles will evolve, this transformation presents an opportunity for professionals to adapt, embrace new tools, and enhance their value by combining their expertise with AI-driven insights. If we choose to embrace these capabilities, we'll strengthen our position as strategic advisors in a rapidly changing business world. Rather than fearing replacement, we should focus on how AI is redefining our roles, and we have the opportunity to lead that definition.



The writer is a Fellow Chartered Accountant working as Director Finance at 10Pearls (Pvt.) Limited, Pakistan.



Chat Ai

Command Prompt :

# Matters of State: The Evolution of Accountants from Gatekeepers to Growth Partners

Mr. Faisal Nadeem Sheikh, ACA

It is without a doubt that we as accountants are captains of the gate. The very gate to domains of economic prosperity. These domains in their cumulative state are the economy as we know it.

By being chartered by the government, we are in fact authorized to be the most prized professionals in our fields. We are storied, documented, independent and a force to reckon. Our control and influence, make sure that the people of this fine country have their lights on and their stoves burning. Whatever calamitous state our economy is in, it's not

**Embracing modern tools such as AI, machine learning, and IoT can revolutionize how data is collected, analyzed, and reported.**

# Integrating advanced technology within accounting processes will transform the finance function into a proactive, dynamic force, contributing to the seamless flow of information and fostering a more agile and informed business environment.

for a lack of protective oversight and operational lethargy from our end, lets all agree to that.

If we take the above words as true to whatever extent dear reader, why are we all victim to being labelled as cost centres, back-office functions, a growing strain of cost imbalance to the P&L. As a matter of state, we are targeted, deliberately blocked and in the most crucial of times, ignored. For once lets all agree that those of us working in the private sector are not prized by management, we are they who do the dirty work.

The finance department or accounting as is known in some circles, is the bane of all happiness for others and we do it with a smile on our faces with pens flourishing incessantly.

The gatekeeper is often blamed when things go south. The cries for more men on the walls, the weak state of our fortifications, the lack of reconnaissance for our armies in the field, the dollar, the interest rates, all the king's horses and all the king's men chanting cries of defeat, the guard at the door is the cause of all troubles. Kings in dire straits have often breathed their ire on the very guards that keep them safe. The illusion of safety is in part the resources allocated and part in the deterrence that we give to all who would take advantage. As a matter of state, we are relegated to obeying orders and not questioning them or advising on their formation or even giving insights to what might one day become plans.

## What can be done in the face of this onslaught?

Simple.

"Then out spoke brave Horatius, The Captain of the gate!"

Despite the theatrical tirade above dear reader where I equate the medieval to our modern times, we can overcome this mark that was once a source of pride but now a mark of black. With all the tools available in this modern age of wonders, this tide can be turned. It is the need of the hour to

change our understanding of our roles. We must help business grow. Controls should be enforced with a soft touch. Every breath should bring advantage to those facing the frontlines of the market. A finance business partner is what we need. Not the gatekeeper of old. With AI and all its power, we have the means at our disposal to give the stakeholders what they so require.

Reports sent by our hand often is accompanied by a sense that a bleakness prevails of a deliberate nature. With AI, any question that warranted a report to be prepared and notes to be added can be directly obtained from our systems. Direct to customer dealing. Our roles must transform into one where we have solutions to these problems. Problems that are no longer highlighted by us but in fact discovered by the end consumer.

The next question dear reader is elementary, how to go about doing this? For starters, any machine learning or AI demands automation within our workplaces. Not only in the way we make the books but the way in which data is accumulated, stored and disseminated. The need of the hour is IOT data synchronization. The plant floor must talk on its own, outside the checklists and registers that so dominate most of our workplaces. Our machinery must directly be linked to our Management Reports and our ERPs.

IOT/IT data synchronization will challenge all who enter. No longer must information be delayed or invoke the hand of those who must make sense of it. The age of Industry 4.0 is here, the whole business is in the palm of your hands, live and dynamic. The times will change and the old must give way to the new as a matter of state.



The writer is an Associate Chartered Accountant working as Chief Financial Officer, Octopus Digital Limited.



# OECD Pillar Two & its Global Implementation

Mr. Altaf Ismail, FCMA

In 2021, the Organization for Economic Cooperation and Development (OECD) Inclusive Framework (IF) issued a 'Statement' focused on addressing the key challenges of base erosion and profit shifting (BEPS) arising from the digitalization of the global economy.

The Statement proposed a Two-Pillar Solution, comprised of:

- i. **Pillar One:** this aims to ensure a fairer distribution of taxing rights with respect to the profits of large multinationals enterprises (MNEs) and
- ii. **Pillar Two:** which implements a new global minimum Effective Tax Rate (ETR) of 15% for certain MNEs

Pillar One provides for MNEs to be subjected to tax in countries where they sell their products or services (often

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**Since October 2021, 136 countries have agreed to GloBE Rules - subject to passing their own legal system except Pakistan, Sri Lanka & Nigeria.**

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**“The GloBE rules provide for a coordinated system of taxation intended to ensure large MNE Groups pay a minimum level of tax on the income arising in each of the jurisdiction where they operate. It does so by imposing a top-up tax where the Effective Tax Rate (ETR), determined on a jurisdictional basis, is below the minimum rate”**

referred to as market countries). Amount A of Pillar One applies to MNEs with more than Euros20 billions in consolidated group revenues and overall profits margin above 10%. It is envisaged that 25% of the profits above a 10% margin may be taxed in the market economies. Pillar One taxes will charge MNEs to pay tax in jurisdictions where they do business and don't have physical presence in the form of legal entity or permanent establishment. It is estimated that Pillar One will generate additional annual tax revenue for such jurisdictions from USD 13 billion to USD 36 billion.

Pillar Two introduces a global minimum tax system. The threshold for this system to apply is lower than for Pillar One, namely consolidated group revenues of more than Euros750 million in line with the threshold for OECD country-by-country (CbC) Reporting.

## PILLAR II

The above brief covers international taxation development scenario discussing development from “double taxation avoidance” to ensure “double non taxation” and now towards minimum global taxation of 15%. It is estimated that Pillar II will generate USD 220 billion additional global tax revenue. This article discusses Pillar II (GloBE Rules).

## PREAMBLE

“The GloBE rules provide for a coordinated system of taxation intended to ensure large MNE Groups pay a minimum level of tax on the income arising in each of the jurisdiction where they

operate. It does so by imposing a top-up tax where the Effective Tax Rate (ETR), determined on a jurisdictional basis, is below the minimum rate” [Source: Executive Summary to GloBE Model Rules]

While Pillar One rules continue to evolve, the rules and guidance related to Pillar Two adoption have been issued and expected to take effect from 2024.

For now, it may be useful to understand the mechanism for collection of additional taxes. It is envisaged that this will work via a series of rules which somehow ensure that taxpayers pay a minimum rate 15% tax on their global income, no matter that jurisdiction in which the income is earned.

Pillar 2 is a coordinated system, so if one country (for example Pakistan) is not going to implement Pillar 2, it will not remain unaffected. As the system is coordinated so the other country will impose top up tax on that country's MNE which are part of global MNE (Pakistan here in this example).

## OBJECTIVES

- Pillar II aims to end “race to bottom” in corporate taxation. While in 40 years back CT rates were 40%, now they have been reduced to 23%
- Reduce pressure on developing countries to offer wasteful tax incentives.
- Ensure that investment and capital allocation decisions are based on non-tax factors such as infrastructure, professional standards, educational levels, labor costs, etc.
- Trigger minimum tax in each jurisdiction on profits in excess of routine returns related to real substance i.e., return on average book value of tangible assets plus payroll cost

## ACHIEVING MINIMUM TAX RATE (MTR) THROUGH INTERLOCKING RULES

If the effective tax rate for a jurisdiction is below that 15% minimum rate, a top-up tax may be imposed and collected under one of the three following interlocking rules aimed at reducing profit shifting and based erosion:

**Qualified Domestic Minimum Top-up Tax (QDMTT):** Is a domestic “top-up” tax that will take precedence over either an IIR or UTPR and tax domestic entities up to 15% before another country's UTPR or IIR applies. QDMTT is applied by low tax jurisdiction itself upon its domestic implementation.

**Income Inclusion Rule (IIR):** IIR taxes the income of foreign subsidiaries at the parent level company level if the local tax rate is below the minimum 15% rate. If low tax jurisdiction itself does not implement QDMTT or for some reason cannot apply QDMTT, then IIR comes to play.

**Undertaxed Profit Rule (UTPR):** UTPR deny deductions or impose withholding taxes on payments to related parties

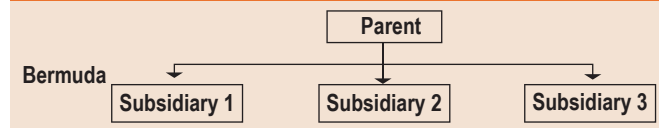
## Other Article

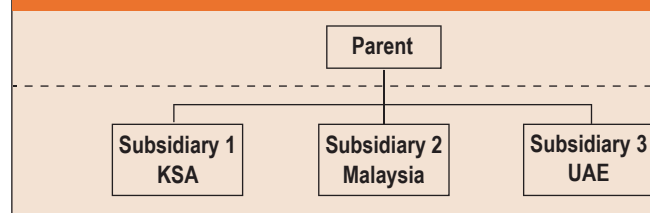
that are taxed below the minimum rate that is not otherwise subject to an IIR or QDMTT.

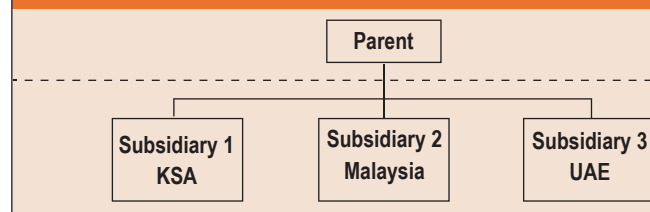
### PILLAR 2 NOT RELEVANT - EXCLUSIONS

- Multinational Enterprises (MNEs) having revenue of less than 750 million Euros.
- A local enterprise having income from exports with no permanent establishment (PE) in any other jurisdictions.
- Income earned in a jurisdiction being lesser than 'moderate profits' (calculation of moderate profits is prescribed with respect to eligible tangible assets and payroll cost) rules due to handsome substance (substance defined in GloBE rules as value of tangible assets and payroll costs).
- An investment holding company having dividend and capital gains or profit on fair valuation of its holdings. Provided holding is greater than or equal to 10%. However, investment being less than 10% will be categorized as portfolio investment and will be subject to GloBE rules.
- If some entity in overseas Low Tax Jurisdiction (LTJ) having Place of Effective Management (POEM) in another country (like Saudi Arabia), it will be considered as existing in another country.
- Losses incurred in pre-GloBE periods can be captured through deferred tax (DTA) mechanism.
- Sector carve out: Income from international shipping and specified ancillary activities
- Excluded entities: Government, international organizations, non-profit organizations, pension funds, investment funds, etc.

The following tables illustrate the operations & cooperation of Pillar 2 rules:

USD in min UK		Table A	
			
Profits/Loss	→ 5,200	(4,000)	3,000
<b>Note:</b> For the sake of illustration Bermuda is assumed to be 0% CIT jurisdiction. Recently they have announced CT of 15% on businesses which are part of global MNEs			
A	Total profits	4,200	
B	Current tax including deferred tax losses (DTL)	-	
C	Effective Tax Rate (ETR)	0%	
D	Minimum Level of Tax Rate (MTR)	15%	
E	Short fall (D-C)	15%	
F	Substance based execution of profits	200	
G	Income subject to Top-up Tax under Globe (A-F)	4,000	
<b>Top Up Tax Payable (GxE)</b>		<b>600</b>	
In this case ETT falls short of the minimum benchmark of 15% has shortfall has to be collected from the set Globe Rules. The next two tables (B-1 & B-2) explain the collection sequence & charge process.			

USD in min UK		Table B-1			
					
Profits/Loss	2,000	(5,000)	5,000		
Income Tax Rate	20%	30%	NIL		
<b>Profit/(Loss) Tax Rate Normal Tax Globe Impact Additional Total</b>					
UPE	1,000	30%	300	-	300
Subsidiary 1	2,000	20%	400	-	300
Subsidiary 2	(5,000)	30%	-	-	300
Subsidiary 3	4,000	NIL	-	600	600
Total	2,000		700	600	1,300
ETR			35%	30%	65%
<b>Note:</b> For the sake of illustration UAE tax is assumed to be 0%. UAE has already implemented 9% CT rates from the current year & GloBE rate for entities which are part of MNEs with global turnover of 750 million Euros.					

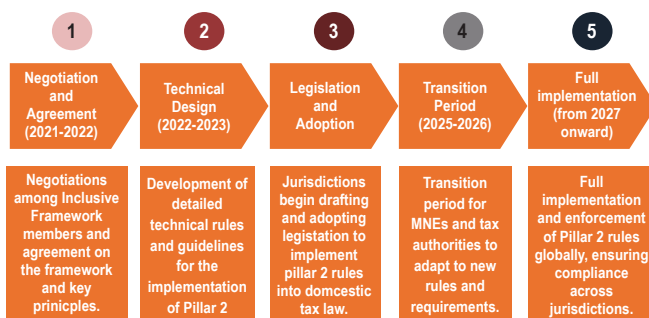
USD in min UK		Table B-2	
			
1- QDMTT	State 3 (UAE) can implement QDMTT and charge top up tax of USD (min) 600. So the first tax right granted to entity itself.		
2- IIR	If State 3 does not recover QDMTT, State UK can implement GloBE and recover top up tax as per IIR		
3- UTPR	If State UK does not recover IIR, State 1 (KSA) and State 2 (Malaysia) can implement GloBE rules and recover UTPR in the ratio based on employees payroll and value of tangible assets. If only State 1 (KSA) alone implement GloBE, UTPR of USD (min) 600 will be obtained by State 1 (KSA)		
<b>Note:</b> Countries names are mentioned for the sake of clarity of understanding only. Actual Pillar 2 implementation status in these countries differs from what illustrated in this table.			

Derivative Incomes/(Losses) Exclusions		Table C USD in min	
	Normal Tax	GloBE Tax	Total Tax
A Operating profit	1000	1000	
B Loss on sale shares	600	-	
C Income	400	1000	
D Current Tax @20%	80	80	80
E Deferred Tax Assets (DTA)	120		
F ETR (D/A)		8%	
G Minimum level of Tax Rate (MTR)		15%	
H Short fall (G-F)		7%	
I Substance based excultion of profits		0	
J Top-up Tax under GloBE (CxH)		70	70
K Total Tax (D+J)			150

There are numerous complexities involved in Pillar 2 implications which are further compounded by repeated Administrative guidances issued by OECD as new proposals raise new challenges. One such implication is treatment of "derivative incomes and losses" as per GloBE rules. The table above illustrates this which is further described in following points:

1. It can not be assumed that if a country's tax rates are above 15% that MTR will not
2. Certain GloBE rules may trigger top-up tax levy despite a country's tax rate being above 15%
3. The above example shows the topup tax will trigger due to the interplay between domestic rules & topup tax despite the fact that country tax rate is above 15%.
4. For the illustrated year the entity has transferred one of the subsidiary shares resulting in loss and attracting DTA as per accounting practice. But GloBE rules apply only to operating profits/(losses).
5. However, as GloBE rules do not allow derivative income (shares loss) so tax loss and related DTA impact is eliminated resulting in taxable profit of 1000 resulting in ETR of 8% hence triggering shortfall of 7%
6. So even countries with tax rate above 15% may not have safe position in all cases once details are applied

### TIMELINE – PILLAR TWO IMPLEMENTATION



### Pillar 2 Implications for Third World & Middle East Countries

- Since October 2021, 136 countries have agreed to GloBE Rules - subject to passing their own legal system. However, Pakistan, Sri Lanka & Nigeria have not agreed to GloBE rules so far. However, it does not mean that GloBE will not affect these non-adopting countries once Pillar 2 is fully implemented. Their share of Pillar 2 will be taken over by other jurisdictions.

- Statutory auditors of countries not implementing Pillar 2 will have to adopt special Pillar 2 assurance procedures for Global MNEs working in such jurisdiction to assess the impact either arising under IIR or UTPR.
- All MNEs operating in Pakistan with global turnover of Euros 750 million will have to do homework despite the fact Pillar 2 is not implemented in the country. The big few may be for example Unilever Pakistan, Nestle Pakistan, Coca-Cola Pakistan, Samsung Pakistan, Microsoft Pakistan, Philips Pakistan, Engro Corporation and commercial banks with global presence to name a few.
- Tax reliefs enjoyed by MNEs power projects under incentives from FBR, Pakistan may be subject to tax under the GloBE rules by another jurisdiction where their UPE operates. As these Pakistani power projects will not be taxed under pillar 2 in Pakistan (as the country has currently consented to not implement Pillar 2)
- If some entity in overseas Low Tax Jurisdiction (LTJ) having Place of Effective Management (POEM) in another country (like UAE), it will be considered as existing in that other country.
- MNEs with entities enjoying Final Tax Regime in Pakistan with presence in other jurisdiction(s) may arise with ETR less than 15%, if Pakistan implements Pillar 2 regime in future.
- In Saudi Arabia, MNEs subject to 2.5% Zakat on balance sheet will be affected by GloBE rules. Most popular business affecting may be Savola Group, Al Marai Co, Saudi Aramco, Lulu Hyper Markets, Mobily, Saudi Telecom, etc. to name a few.
- Economists and financial analysts are looking at industries situated in tax free zones of UAE (or for that any country of the world) with moderate/normal substance where QDMTT can not be applied and ETR is less than minimum tax rate of 15%

### Pillar 2 Other Implications & Developments

- If a tax treaty between two countries based on OECD model operates on exemption method so the other country cannot assert its right of taxation unless there is an amendment to the treaty itself if its permanent establishment (PE) is not taxed in its jurisdiction.
- Country with territorial taxation which do not tax overseas income hence no taxation of source (prime example France). So other country will assert its GloBE right and will recovering the short fall tax.
- Due to dynamic nature of Pillar two, many countries like Mauritius, UAE & others have drafted QDMTT rules (local jurisdictions compliance measures) and have not yet finalized them. The main reason is more and more updates are coming from OECD.
- African jurisdictions are mostly source jurisdictions so not much interested in Pillar 2 implementation.

The GloBE Rules are very dense & since inception in October, 2021 have been modified with multiple updates and changes. The latest GloBE rules 2023 have been published on 25th April, 2024 and its Administrative Guidance on 17th June, 2024.



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# Wealth Accumulation From Random Cash Gifts

Mr. Muhammad Amin, ACA

As guardians when we are going into our mid-forties, we watch our children grow up and entering their teenage years. We start pondering about the savings to be made and the avenues of investments for those savings. We additionally contemplate about the inadequate levels of savings we have made until that point and then we start making sincere effort to save some money for our Kids Education, Marriage, or any medical emergency but what about leisure travel or funds needed for our kid's start-up business?

In the current socio-economic environment savings for the purpose of luxuries looks inevitable. Thanks to the ever-emerging demands from our kids due to their exposure with the digital gadgets and their accessibility to the entire world with the use of internet. So how can we convert a random Cash amount and accumulate wealth for our kids without compromising our current standard of living and expenditure budget?

Here is the recipe. Our culture and rituals are exceptionally enchanting that right from the birth of our child, they start getting an abundance of Cash gifts. And these Cash gifts are not restricted to the birth of the child, it is just the beginning. There are yearly Cash gifts in the form of Eidi, Birthday gift. There is a repeated series of Cash Flow every year along with a couple of inflatable sums on special events like on the completion of Quran by the kid. This series of Cash Inflows shall continue until the kid becomes an employed adult. These Cash Gifts are inversely proportional to the age of the person. It is like the child receives more EIDI or BIRTHDAY envelopes when they are an infant then it keeps diminishing as the kid becomes a toddler, then enter in pre-teenage group and then the teenage group until they become employed adults. We often see that elder children are sweetly complaining to their parents that their younger sibling received more EIDI than them.

Have you ever imagined, that if we save these cash gifts and start making a reserve for your kid from DAY-1 then how much

wealth can be created for our child till they attain the age to understand their financial matters?

Most parents often use this money to buy food, gifts, electronic gadgets, or simply set off their own expenses being made on such special occasion particularly EID. Further, from the Islamic point of view, parents aren't allowed to use this money for their own cause and should not be used for other siblings as this money is a trust in the hands of parents.

So, what can parents do with these funds instead of keeping them in the form of Cash? Parents can invest these funds to accumulate wealth for their kids. As we all know the return on investment is entirely dependent upon the period and the risk tolerance level. In this case, parents have at least maximum time let's say 20 years with a repeated series of Cash Flows. Alongside the longer time horizon, parents can afford to take maximum risk for investing these funds. As a thumb rule, the longer time horizon implies the higher ability to tolerate risks. Considering the time horizon and risk tolerance, once can easily place these funds in any equity fund or stock market.

To understand the impact of how these random cash gift can turn into something big, let us see the below illustration and understand the compounding effect. We will be making a few assumptions about the Cash flows during different age bracket of our Child.

We assume that all the Cash Gifts received till the age of 12 have been invested and from the age of 13 to 19 when a kid becomes a teenager, the parent just saved PKR 5,000 while the remaining amount will be allowed to be used out at the freedom of that teenager. Thus, the savings from each year would be like the in the below table.

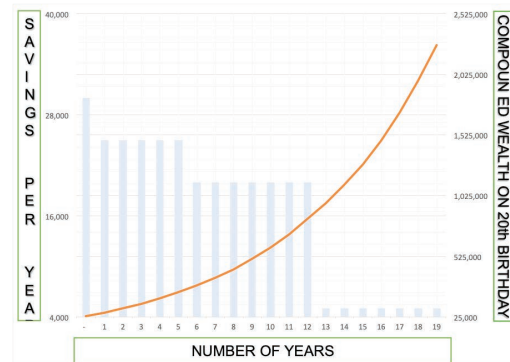
Age Group	Age Bracket	Amount Saved in PKR
Infant	0-1	30,000
Toddler	1 - 5	25,000
Pre-Teenager	6 - 12	20,000
Teenager	13 - 19	5,000

### ILLUSTRATION:

Let us assume that the amount for a particular year as mentioned in the above table are available for investments at the end of that year. Considering the annualized return of 15% over a period of 20 years let's see the magic in the below table.

Year	Savings	Compounded Wealth on 20th Birthday
0	30,000	490,996
1	25,000	355,794
2	25,000	309,386
3	25,000	269,032
4	25,000	233,941
5	25,000	203,427
6	20,000	141,514
7	20,000	123,056
8	20,000	107,005
9	20,000	93,048
10	20,000	80,911

Year	Savings	Compounded Wealth on 20th Birthday
11	20,000	70,358
12	20,000	61,180
13	5,000	13,300
14	5,000	11,565
15	5,000	10,057
16	5,000	8,745
17	5,000	7,604
18	5,000	6,613
19	5,000	5,750
20	-	-
<b>TOTAL</b>	<b>330,000</b>	<b>2,603,281</b>



With a cumulative saving of PKR 330,000 over 20 years, you can gather a staggering sum of PKR 2.6 million for your child which can be gifted to your Child on their 20th Birthday which they can use for their leisure, hobbies, travel, starting a business or any other priorities. Your Child will thank you when they ascertain that they are millionaire even before completing their professional qualification. This may not seem like big of a deal but imagine from the perspective of a person who has zero wealth and is going to enter the real-world seeking avenues of income generation. Further your kid will understand the value of money when they will be spending this saved amount which in true sense is their own money.

As a parents, you did not put in a single rupee from your pocket here and instead you made a deliberate effort of turning your Child's gifts into millions. More than 90% of parents do not pay heed to these random Cash gifts and Eidi which can be transformed into something big or meaningful by taking some small measures with discipline. It is my advice for all students and young members of our fraternity to adopt this out of box technique of wealth accumulation in order to secure your Child's future right from their birth through their own money/savings. This will not only gather wealth for your child, but it will also make them understand the value of savings and financial management while using them.



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# Internal Audit – 10 Lessons in Life

Mr. Mohammad Ali Dada, FCA

## Be a Business Partner and Trusted Advisor, not the Police

Traditional Internal Audit functions were meant to be feared. It was the in-house Police that only showed up to catch everyone out. There is no longer an appetite for such an approach anymore.

Audit is most effective when the Management is prepared to collaborate with the Audit team to share their knowledge and problems without fear of repercussion. For that to happen there must be Trust and Respect between all. There will be times when you will have to act like the Police, but it should be a rare exception and not the default.

## Add Measurable Value and Be Commercially Focused

I was always taught to 'pay for myself' since I started Internal Audit and I maintain a self-imposed KPI to add measurable value that is 2x Audit's Cost to Company. With the knowledge and skillsets an Audit Department possesses, it is perfectly positioned to do that.

Measurable Added Value is "A quantifiable reduction of costs or increase in revenue as a direct result of the implementation of an audit recommendation". Don't be a Cost Centre when you can be a Profit Centre.

## Soft Skills are your Greatest Attribute

Technical skills are the fundamentals needed to do your job, but it is your soft skills that will determine how successful you are at your job. I am yet to see a successful leader who hasn't mastered soft skills. It's the X-Factor that separates Good and Great.

Soft skills cover effective communication, critical thinking, emotional intelligence, reading the room, diplomacy, negotiation skills and decision making to name a few. Generally, it means adapting your communication style (verbal and written) to suit the circumstances you face.

When recruiting, I shortlist candidates based on technical skills and attitude, then I hire based on soft skills. That is how highly I rate it and do not compromise on it.

## Push (but not Break) Independence to Maximize Internal Audit's Impact

Independence is a cornerstone of Internal Audit for it to be able to provide objective assurance. However, it should not be used as an excuse to limit how effectively an Audit function can benefit the business.

Management frequently complains that Audit only identifies problems but not solutions. Audit maintains that independence

limits them from doing more. Both are right in their own way, but it is a deadlock and a discord.

Audit should step forward in an advisory capacity to support the business with solutions, as the ultimate objective is to solve the problem at hand.

Always respect Independence but do not be use it as an excuse to avoid helping the business. My view is to push (but not break) independence to its limit to support the business, because solving the problem for the organization I work for is my priority.

### Audit is not an Investigation

No one really looks forward to an audit as it is an intrusive exercise. Management does not mind being helped, just as long as it's not Internal Audit.

While an audit requires professional skepticism, it doesn't need to boil over into a default investigative approach. It's a mindset change required within Audit teams to start thinking of themselves as consultants rather than investigators.

Management will typically not be comfortable sharing information if they feel they are being investigated. Therefore, it is Audit's responsibility to create an environment of transparency and trust while maintaining objectivity. Treat an Audit as a consulting engagement and Management as your customer. The investigative approach should only be applied if necessary and not as default.

### Audit Report should also Represent the Management

The Audit Report is still the most valuable means of communicating Internal Audit work. Therefore, how its written matters a lot. The tone should be neutral and without sensationalism. State the facts in the observation, define a root cause and impact to business, along with a practical recommendation.

An Audit Report reflects work done in collaboration with the Management. The tone must be constructive, and also represent the Management's perspective. Consult them (as actions owners) when developing recommendations and record an Agreed Action Plan in their words.

If there is a disagreement, explain both Audit's and Management's points of view fairly. Don't just be a critic; be comfortable giving credit to the Management where credit is due.

### Report Ratings are a Major Distraction

There are times when finalizing an audit report can take longer than conducting the audit itself, and one of the biggest pain points is sensitivity over the Report Rating. The debate moves away from observations and required actions to a negotiation over ratings and it's perception by the stakeholders.

Audit is about identifying risk and resolving it, and anything that takes focus away from that is a waste of time and effort. For

me, Report Ratings are an unnecessary distraction and I no longer use them. This ensures that Audit and Management remain focused on what matters most.

### The Underappreciated Art of Keeping it Brief and Simple

I live and die by the following rules:

- Learn to explain everything very simply and focus on what matters most.
- Save the details for when / if required.
- Say it in a way a five-year old can understand it.
- Everything can fit in one slide.
- When writing something for an executive – summarize it, then summarize the summary!

I am not downplaying the importance of detail. Just know the audience and extent of explanation required. Think of your summary like a newspaper headline – no one reads the story if the headline isn't interesting.

To quote Mark Twain "I didn't have time to write you a short letter, so I wrote you a long one".

### High Quality Audit Observations should have Practical Recommendations

A pet peeve across my career has been reviewing reports that highlight a valuable observation but do not really provide a credible or practical recommendation.

Here's my view. An audit observation for which there is no solution, or a practical recommendation is just a risk. Work with the business to determine an agreed practical solution and then recommend it. That is what adds value and gives audit more respect and credibility.

Be a problem solver not just a problem finder.

### Agility to Adapt to Immediate Business Needs

Audit functions are assessed by their ability to deliver the approved audit plan on time. Resources are stretched and deadlines are always tight. But what happens when Management approaches you for support?

Build a flexible plan to allow for spare capacity for relevant, ad hoc projects when requested. Agree this with the Audit Committee so that the Audit team can be deployed to unplanned audits or ad hoc projects. This makes Audit agile and responsive to business needs.



The write is a Fellow Chartered Accountant working as Chief Audit, Risk and Compliance Gulf Warehousing Company (GWC) QPSC, Qatar.



# A Quantitative Method to Incorporate the Currency Depreciation in the Financial Statements

Mr. M. Nabeel Mustafa & Dr. Amiya Bhaumik

Typically prepared on a historical cost basis, financial statements must account for inflationary effects, distorting the true value of assets and liabilities. Inflation erodes currency's buying power, so the precise economic value of a company's financial status is disguised, as shown in its reports. The divergence between nominal and real prices may lead to significant financial misrepresentation (Smith, 2023). We will

analyze the issue statement and investigate potential solutions to rectify this imbalance. The organization's financial statement does not currently include the devaluation, purchasing power (PP), or time value of money (TVM), which refers to the loss in worth of money over time through any International Accounting Standard (IAS) or International Financial Reporting Standards (IFRS) (Khan & Rehman,

2023). Debtors are traditionally assessed at their historical cost, which typically ignores how receivables are affected by shifting economic conditions. Because changes in purchasing power affect the true value of receivables and financial decision-making, accounting for purchasing power seeks to provide a more realistic financial picture (HighRadius, 2024). Through improved financial reporting quality, this integrated strategy aids stakeholders in comprehending the economic impacts on assets. Additionally, the World Economic Forum's comprehensive 2023 analysis demonstrates that the absence of inflation-accounted reporting can exacerbate financial inequality and result in inefficiencies in the global financial systems. IAS-29 refers to International Accounting Standard 29, which guides how to account for and report the effects of hyperinflation in financial statements (Higson, Shinozawa & Tippett, 2012). Financial reporting in hyperinflationary economies is applicable under three certain conditions (Foundation, 2023):

1. When a country's populace possesses its money in assets other than the domestic or foreign currency.
2. When credit sales and purchases are made at prices that consider the expected decrease in the value of the currency, even over a shorter period.
3. When the cumulative inflation rate doubles for three years.

The hyperinflationary accounting standard (IAS-29) is relevant only if certain circumstances are satisfied. Nevertheless, these attributes are essential but extremely difficult for any economy to achieve (Vera, 2013).

The major questions are

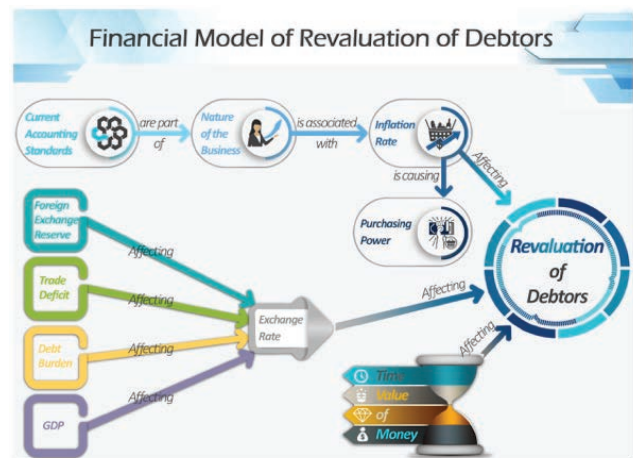
1. What effect does devaluation or depreciation of currency have on receivables and debtors on a balance sheet?
2. In a frequent currency devaluation, how are receivables and debtors valued?
3. What conditions must be met to include macroeconomic factors' impact on the financial reporting (Dumitru, Albu & Georgescu, 2021)?

It is essential to have a consistent criterion that directly addresses key economic factors in financial reporting (Lennard, 2021). Current accounting laws occasionally require more consideration of the effects of ordinary inflation on financial statements, potentially resulting in inaccurate portrayals of a company's financial condition. These norms often presume a stable currency, contrasting with the realities of the economic landscape, where inflation consistently erodes purchasing power. Consequently, previous cost-based financial reporting may have either exaggerated or underestimated the valuation of assets and liabilities (Chen & Huang, 2022). A financial reporting standard addressing the effects of elevated inflation and purchasing power parity must be developed to ensure that financial statements reflect an entity's financial status more accurately during periods of significant inflation (Chen & Wang, 2023). The objective is to

discern the essential factors of the economy that affect the currency's value and influence the company's financial condition (Bailey, 2012). Standardizing those components will simplify currency revaluation (Bepari & Mollik, 2021). This article will provide useful information on how accountants could more precisely identify the worth of current assets and receivables, as currency changes regularly alter this value. Accounting methods that account for inflation and TVM adjustments can help ensure that financial statements fairly represent the economic value of assets. Maintaining investor confidence, directing financial choices, and upholding overall economic stability all depend on an organization's capacity to disclose its genuine financial status.

The impact of high normal inflation on financial statements has been the subject of several research studies. Their study highlights how inflation affects asset value, corporate reporting, and financial health. For example, studies by (Jones & Taylor, 2023), (Smith & Brown, 2024), (Barth, 2023), (Barker et al. 2023) and (Dumitru et al. 2021) have examined how inflation distorts financial statistics such as profits and profitability, making financial decision-making more challenging. In 2023, the World Economic Forum also covered the effects of inflation on corporate disclosures and global market performance (World Economic Forum, 2023). The revaluation of the financial statement model was developed and is now tested in the quantitative phase through the Computable General Equilibrium (CGE) model using GAMS software (Eltalla, 2013). The model was developed in qualitative is given below:

Model #2:



(Nabeel, 2023)

The CGE model is an analytical approach that treats the whole economy as a complete system of interdependent components, including exchange rate, imports, exports, trade balances, production units, consumers, investors, etc. An economic shock on any variable can have ripple effects throughout the economic system. There are many

advantages of using the CGE model instead of econometric modeling. A Social Accounting Matrix (SAM) provides a comprehensive overview of a country's economy by illustrating the flow of income and expenditures between various sectors and agents. This includes data from input-output tables, household income and expenditure, and covers different time periods, offering insights into the economic structure. (Debowicz, 2013).

Figure 3.1 Quantitative Phase:



The simulation of a 15% devaluation in the currency exchange rate was completed, and the Table below shows the output results on aggregate variables.

Macro-SAM for Pakistan (in Billions of Pakistani Rupees)														
	Activities	Commodities	Land	Labor	Capital	House holds	Govt.	Sales Tax	Import Tax	Direct Tax	Stocks	Saving-Investment	Rest of the World	Total
Labor	2,651													2,651
Capital	6,694													6,694
House holds		2,651	576	2,651	5,998	617							763	10,605
Govt.					442			171	151	391			27	1,182
Sales Tax		171												171
Import Tax		151												151
Direct Tax						391								391
Stocks													164	164
Saving-Investment						2,168								2,168
Rest of the World		2,843			254		63							3,160
<b>Total</b>	<b>25,743</b>	<b>28,908</b>	<b>576</b>	<b>2,651</b>	<b>6,694</b>	<b>10,605</b>	<b>1,182</b>	<b>171</b>	<b>151</b>	<b>391</b>	<b>164</b>	<b>2,259</b>	<b>3,160</b>	

It shows that a 15% decrease in currency valuation will decrease the GDP by 1.97%. Import and exports, the backbone of the exchange rate, decreased/increased by 14.26% and 38.94%, respectively.

Please refer to Table # 7.2 in the appendix:

Table 7.2: National Accounts

	Billions PKR		% Change in valuation	As % of GDP	
	Baseline	Devaluation		Baseline	Devaluation
Inflation (CPI)	9.38	9.79	4.371 %	144.162	141.023
Private Consumption	6394.38	5990.71	-6.313 %	94.115	89.961
Govt. Consumption	2302.57	2302.57	0.000 %	33.89	34.577
Investment	1097.75	1097.75	0.000 %	16.157	16.485
Exports	1091.46	1516.568	38.949 %	16.065	7.757
Imports	4091.93	3008.65	-26.474 %	60.227	48.78
Net Taxes	1408.024	1292.38	-8.213 %	17.291	19.407
GDP	4.88	4.79	-1.844 %	100	100
GDP at factors cost	5386.206	5386.206	0.000 %	-79.276	80.884
Trade Deficit	3000.471	2932.533	-2.264 %	44.157	39.838
Overall Percentage change in valuation			-1.789 %		

A significant trade deficit decline can be observed, 2.26% after the PKR 15% devaluation, whereas the decrease in net taxes is 8.21%. There is also a decrease in trade deficit by 5% points from 44.1% to 39.8% after a 15% currency devaluation (Table 2). Private consumption will also be Reduced by 6.31% from the baseline, and inflation will increase by 4.12% due to a 15% decrease in currency valuation. Using Pakistan's SAM for the CGE model, we evaluated the impact of currency valuation on the Pakistani economy's trade balance, GDP and inflation, and resource allocation.

An overall 1.78% decrease in the currency's value is calculated considering all the economy's factors. It depicts the percentage of overall Pakistani economic factors related to production and currency valuation. These factors ultimately affect the business and organizational financial statements. This decrease in the value of the currency of the financial statement is not recorded in the financial statements by applying this decrease in the currency's value. Below is Abbott Laboratories of Pakistan's financial statement ending the year as of 31 December 2021. Picture – Abbott's Financial Statement:

ABBOTT PAKISTAN ANNUAL REPORT 2021

ASSETS	Notes	2021 (Rupees '000)	2020
<b>NON-CURRENT ASSETS</b>			
Property, plant and equipment	11	10,006,158	9,070,460
Intangible assets	12	49,017	66,255
Long-term loans and advances	13	71,646	68,033
Long-term deposits	14	7,589	7,513
Long-term prepayments		966	1,746
<b>Total Non-current Assets</b>		<b>10,135,300</b>	<b>9,214,007</b>
<b>CURRENT ASSETS</b>			
Stores and spares	15	284,097	244,519
Stock-in-trade	16	6,721,491	4,981,489
Trade debts	17	1,216,257	935,468
Loans and advances	18	455,839	277,661
Trade deposits and short-term prepayments	19	302,073	425,048
Other receivables	20	467,076	420,836
Taxation - net		344,407	92,431
Short-term investments	21	78,010,930	6,506,404
Cash and bank balances	22	895,347	988,881
<b>Total Current Assets</b>		<b>18,432,447</b>	<b>15,701,737</b>
<b>TOTAL ASSETS</b>		<b>28,567,747</b>	<b>24,915,744</b>

The annexed notes 1 to 43 form an integral part of these financial statements.

Chief Executive: [Signature] Director: [Signature] Chief Financial Officer: [Signature]

(Abbott Annual Report, 2021)

17. TRADE DEBTS			
Considered good:			
Secured		32,642	40,607
Unsecured			
- Due from a related party	17.1	14,587	-
- Others		1,169,028	894,861
		1,183,615	894,861
		1,216,257	935,468
Considered doubtful:			
Unsecured		68,402	94,582
		1,284,659	1,030,050
Less: allowance for expected credit losses	17.4	68,402	94,582
		1,216,257	935,468

(Zoom, Abbott Annual Report, 2021)

The total trade debts, including debts due from related parties, total 1.2 billion rupees. The details and notes of the trade debts are given below.

According to the model, the aggregate 1.78% decrease in the receivable value should be applied to this financial statement as the devaluation expense debit and provision for the devaluation is credited as a general accounting journal entry.

$$\text{Rs. } 1,216,257,000 * 1.78\% = \text{Rs. } 21,649,375/-$$

The general journal entry would become:

Date	Description	Note	Debit	Credit
31 December 2021	Currency Devaluation Expense	Table 2	21,649,375/-	
	Provision for devaluation expense			21,649,375/-

By deducting this provision from the total trade debt, the value will become:

$$1,216,257,000 - 21,649,375 = \text{Rs. } 1,194,607,625/-$$

Now, the revised balance sheet would become the following:

17. TRADE DEBTS			
Considered good:			
Secured		32,642	40,607
Unsecured			
- Due from a related party	17.1	14,587	-
- Others		1,169,028	894,861
		1,183,615	894,861
		1,216,257	935,468
Considered doubtful:			
Unsecured		68,402	94,582
		1,284,659	1,030,050
Less: allowance for expected credit losses	17.4	68,402	94,582
Less: allowance for the currency devaluation		21,649	
		1,194,647	935,468

### (Revalued Trade Debts)

The revaluation debtors of the Abbott laboratories of Pakistan have now been revalued accurately with the revised value of trade debt. The trade debt will be reduced to 1.19 B instead of 1.21 B.

The time value of money is critical for financial decision-making, influencing present value calculations, discounted cash flow analysis, and capital budgeting (Zhang & Li, 2024). Organizations must acknowledge this principle for sound financial choices and accurate financial reporting. In high-inflation economies like Pakistan (Dawn, 2024), the time value of money significantly impacts financial health, as the nominal value of receivables may not reflect their true worth.

Additionally, this study offers helpful tools for investors and creditors by simplifying the process of properly assessing an organization's creditworthiness and liquidity. Organizations may make informed decisions about credit policies, collection practices, and risk exposure by properly expressing debtors' worthwhile accounting for inflation and devaluation. By supporting a valuation approach that considers these adjustments and aids in bringing accounting standards into line with economic realities, this paper ultimately helps to develop more stable and transparent financial reporting frameworks, which are crucial for organizational resilience and investor confidence in volatile economies (International Accounting Standards Board, 2023). The model developed can be reproduced using a larger sample size with multinational practices worldwide. However, a new model must be developed to revalue the financial statement quickly.



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Command Prompt :

# Fingerprints: A Marvel of Divine Creation

Mr. Shariq Ali Zaidi, FCA

The unique patterns found on human fingertips, known as fingerprints, are an extraordinary sign of Allah's unmatched creation. These markings distinguish every individual from another in a way that remains unchallenged to this day. It is a profound blessing from Allah and a remarkable testament to His power that He creates humans with similar features yet keeps each one unique.

Despite variations in physical appearance, height, and stature among people worldwide, there can sometimes be striking similarities, especially among twins. Twins often have such similar facial features and builds that distinguishing between them becomes difficult. However, even in such cases, Allah has ensured that their fingerprints remain entirely distinct—a truly astonishing reality.

The uniqueness of fingerprints is not just a fascinating phenomenon but a blessing that has played a crucial role in many aspects of human life because:

- They are unique
- They are permanent
- They cannot be forged

## Types of Fingerprints:

- **Visible Prints:** When a finger is smeared with ink and pressed on paper, the ridges leave their inked pattern. As each pattern is unique, it is used for identification.
- **Latent Prints:** These are small pores on the friction ridges of hands and feet. They exude perspiration, which spreads across the palmar surface. The evaporation of perspiration concentrates its non-volatile constituents on the ridges. The colorless material gets transferred to other surfaces, leaving invisible marks known as latent prints. These can be made visible by physical and chemical methods.

There are various fingerprint patterns such as:

- **Arches:** Ridges in arch-like formation (See below 1,2)
- **Loops:** Ridges curving backward to form the loop pattern. Found in 60% of prints (see below 3,4)
- **Whorls:** Simplest patterns with at least one ridge forming a complete circuit. Found in 30% of prints (see below 5,6,)
- **Composites and Accidentals:** These assist in classification and easy elimination. (see below 7,8,9)

There was a time when it was generally believed that those who were uneducated and unable to sign their names would use their thumb impressions as a substitute for signatures, serving as their identification. This practice led to the perception that such individuals were illiterate, often referred to as “thumb impression people.” However, time has proven that while signatures can be forged, the unique pattern on thumbs and fingers created by Allah is impossible to replicate. Over time, the importance of fingerprints and thumb impressions has significantly increased. Today, with the advent of advanced technology, the process of identification through fingerprints or thumb impressions has become commonplace worldwide. For instance, at almost every airport, biometric systems are used to verify identities.

In our own country, this technology is extensively utilized, particularly through NADRA's identification process, which is linked with numerous entities such as banks, money exchangers, mobile companies, and other institutions. While the objective remains the same as in earlier times, when individuals manually verified identities, much of this task has now been taken over by machines. These biometric systems provide instant and reliable verification in real-time.

To compare and match fingerprints or thumb impressions, specific education and training are required. One may wonder, when biometric systems enable identification through fingerprints or thumb impressions, why is there still a need for related education and training?

Yes, there is still a need for:

- **Technical Experts:** Professionals who can operate, manage, and troubleshoot biometric systems, ensuring accuracy and reliability.
- **Fraud Detectors:** Training in fingerprint analysis and data verification helps prevent identity fraud and data manipulation.
- **Forensic Applications:** Fingerprint analysis is crucial in crime investigation and evidence collection, requiring skilled experts.
- **Technological Development:** Understanding AI, cybersecurity, and machine learning is necessary for advancing biometric technologies.
- **Career Opportunities:** The growing demand for biometric professionals offers opportunities in government, private sectors, financial institutions, and tech companies.

In short, while machines simplify identification, professional expertise ensures their effective use, accuracy, and security. The field I am discussing is part of Forensic Science and is known as Fingerprint Analysis. Professionals in this area are called Fingerprint Examiners or Forensic Analysts. To gain this expertise, one needs to have a degree in fields such as Forensic Science, Criminal Justice, Biology, or Chemistry. Advanced roles may require a Master's degree. However, certification courses can be pursued on:

- Fingerprint Lifting (collecting and preserving fingerprints)
- Fingerprint Comparison (matching and analyzing prints)
- Using systems like Automated Fingerprint Identification Systems (AFIS)

For advanced-level training, Crime Scene Investigation (CSI) training is essential for collecting evidence properly, including fingerprints. Proficiency in digital technologies and software like AFIS, widely used by police and investigative agencies, is also crucial.

### Applications of Fingerprints:

- **Identification Systems:** Fingerprints have become the foundation for modern biometric systems used globally for personal identification.
- **Legal Matters:** In criminal investigations, fingerprints are an essential tool for identifying suspects.
- **Financial Security:** Biometric verification in banking and financial transactions ensures secure and reliable processes.

These applications highlight the wisdom and creativity of Allah in designing human beings with such precision and uniqueness. It is our duty to appreciate and utilize this great blessing to its fullest.

In today's world, fingerprints have become indispensable in various fields, demonstrating their profound importance in daily life. We must reflect on how we can further benefit from these natural signs and use them for the betterment of humanity.

In conclusion, fingerprints are not just a sign of Allah's creative power but also serve countless practical purposes in our everyday lives.

### Where to Get Education and Training:

In Pakistan:

- Punjab Forensic Science Agency (PFSA), Lahore
- National Police Academy and other police training centers
- NADRA

### Internationally:

- FBI Fingerprint Training Academy (USA)
- The Chartered Society of Forensic Sciences (UK)

In addition to the above, online courses are also available on platforms such as Coursera, Udemy, and edX. These platforms teach the basics of fingerprint analysis and forensic science skills.

Remember, if you are interested in pursuing this field, consider starting with local forensic institutions for foundational knowledge and then exploring advanced options, provided you have the necessary skills, such as the ability to notice fine differences in fingerprint patterns, analytical thinking, and patience and precision, which are essential for accurate identification.



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